The **future** of **video**gaming

February 1994 **£**three ¥2100 $ten

EDGE

SNES ■ Amiga CD[32] ■ Mega Drive ■ PC ■ CD-i ■ PC Engine ■ Neo-Geo ■ 3DO ■ Jaguar

Using **shock** tactics to **sell** the **video**game

This winter, over £24 million will be spent marketing **video**games. **Edge** questions the hype

Issue **5** five



The manic star of Sega's Pirate TV ads hams it up on national TV. With Sega and Nintendo both spending £1m every week on advertising, the videogames marketing war is going into overdrive. Edge goes behind the scene...

EDGE



Are you choosing what to buy… or are you being told?

It's that time of year again. The coloured lights are on, the shops are working overtime, and the TV is bulging with commercials: the yuletide brainwashing season is in full flow.

And this year it's busier than ever, with bigger ad spends, wackier commercials and even more airtime, with Sega, Nintendo, Commodore and Philips – not to mention publishers like Ocean and Acclaim – all vying for your attention and your cash.

Three years ago, videogame marketing amounted to £2 million; this year it'll top £24 million. If money talks, there's a lot of shouting going on.

But who sanctions this sort of expense? And is it actually worth the cost? Surely a company would be better off hanging on to a couple of mill' rather than blowing it on ads. After all, you don't really take any notice of that fat bloke off the Sega ad… do you?

Every second you watch, you're being targeted, moulded, influenced, conditioned. Ever so subtly, you're being told what to think.

If someone says 'Sega', where previously you might have pictured a not-terribly-impressive blue and white logo, now you'll be thinking pirate TV, static, Apocalypse Now, pigs, Damon Hill, anarchy and something called Mega CD – as long as the marketing men have been doing their job correctly.

Likewise, Nintendo have shrugged off something of their clean cut Mario image, replacing it with the eccentricities of Rik Mayall. And depending what sort of person you are, you might prefer Sega over Nintendo. But it's a good bet you couldn't explain why… **Edge** machetes its way through the marketing jungle on p46. Don't get left behind.

The **future** is almost here…

inside EDGE issue five

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'Plastic always considered himself fortunate to have been young and impressionable when the great Cola wars of the 1990s erupted on screens and in shopping malls. He watched with childlike wonder as two nearly identical drinks made of carbonated water and flavoured with vegetable extracts indulged in a worldwide orgy of aggressive saturation marketing which became in itself a multi-billion dollar industry... Eventually, people actually began to forget about the drink because the marketing had become the product. Young Plastic watched in awe as Pepsi and Coke actually marketed their own marketing. It was beautiful. The only thing more beautiful, the boy Plastic thought, was if both companies were owned by the same people...'

Ben Elton, This Other Eden





Photograph: **Stewart Whale**

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Jaguar

Everyone knows that Atari's Jaguar console is way ahead of its time – 64bit architecture, 27 Mips, 16.7 colour display, and more. But its success lies squarely in the quality of the games which you'll be playing. **Edge** profiles the new beast, talks to Atari, and meets the big names in the software industry to gauge their reactions



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The **hard** sell

With both Sega and Nintendo currently allocating around £1 million a week to their UK advertising spend, the image battle in the videogames industry has reached fever pitch. **Edge** profiles the new breed of sophisticated videogame marketing, and meets the leading figures behind the scenes in the marketing world

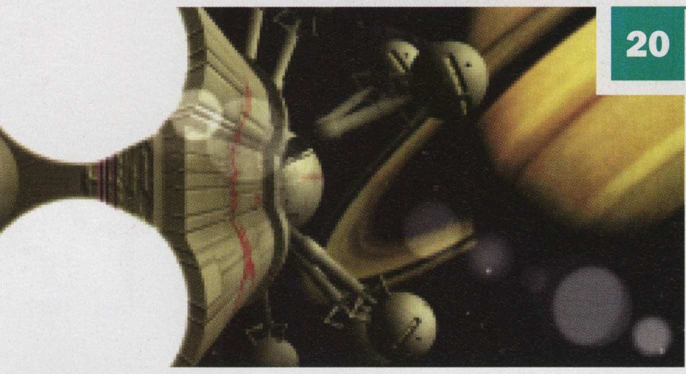
insideview

6 News

Edge has all the latest from the videogaming world. This month, details of the next level of hardware – Sega's Saturn console and Sony's PlayStation-X, the international launch of Atari's 64bit Jaguar, the first MPEG videoboard for PCs, and Peter Gabriel's CD project



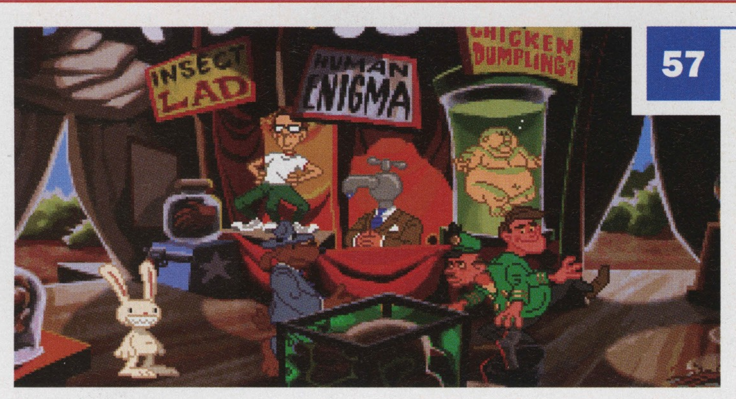
Illustration: Paul Kidby



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Prescreen

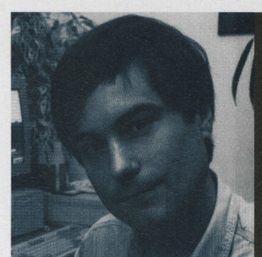
This month **Edge** profiles key programming teams Core Design and Argonaut, and sees stunners like *Creature Shock* (above) for 3DO and PC



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Testscreen

A packed Testscreen section – including *Sam & Max Hit The Road* (above), *Cannon Fodder, Stellar 7, Liberation: Captive II, Actraiser 2 and SubWar 2050*



David Braben

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Edge reader Martin Wilson joins us to interview ace programmer, David Braben. He's the man behind *Virus*, *Elite*, and most recently *Frontier: Elite II*. Hear what he has to say about his latest project – a game which took five years to program. Also send in questions for our next interview, maybe it'll be you who asks the questions

6 News

This month: the first tech specs for Sega's new 32bit Saturn console, and the first images of Sony's rival 32bit console, the PlayStation-X

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Videogames marketing is becoming more and more sophisticated. **Edge** talks to the image makers and finds out how it all works

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Edge rates the best of this month's releases, including *Rebel Assault* (PC-CD), *Captive II* (CD^{32}), *Crescent Galaxy* (Jaguar), and *Stellar 7* (3DO)

82 An audience with Braben

David Braben is the man behind *Elite*, and more recently the sequel, *Frontier: Elite II*. **Edge** sent a reader to talk to him about his life and work

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The best job opportunities around in the videogames industry. Do the write thing…

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Project Saturn: details of **Sega's** new system, **page 6... Sony's PS-X** in development, **page 8...** Atari **Jaguar** launched, **page 10... PCs** get first **MPEG** system, **page 12... Peter Gabriel CD-ROM** under the spotlight, **page 14... 3DO:** latest offerings reviewed, **page 16...**



The very latest **news** from across the entire world of videogaming

Project Saturn: worlds apart?

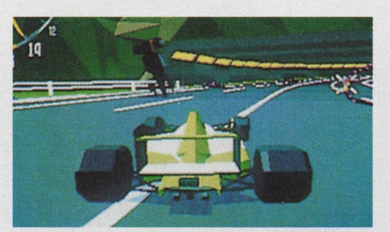
From rumour to legend in one small step: with the release of new tech-specs, Sega's 32bit Saturn system is already the stuff of dreams...

Illustration: Paul Kidby



An artist's impression of Sega's 32bit console, codenamed Saturn

Sega's next generation 32bit console – codenamed Saturn – grows in stature with the latest tech specs, plus the knowledge that a select few software houses in the US and Japan have actually taken delivery of emulation hardware. An insider at Sega Japan told **Edge** that Saturn's processors are currently only 40% complete.



Sega's *Virtua Racing* coin-op in all its glory. Saturn, by all accounts, is more powerful. The mind boggles...

Prototype units or finished development kits aren't expected to be ready for at least another six months.

Despite this, one programmer, who must remain unnamed, claimed to have hands-on experience of Sega's new hardware. He told **Edge**, 'It's *very* hot. It's easily more powerful than Atari's ultra-hyped Jaguar console. Saturn is basically just a spin-off of Sega's coin-op technology.'

The natural conclusion then is that Saturn is based on Sega's *Virtua Racing* coin-op... 'Oh it's more powerful than *Virtua Racing*,' says our man. 'Saturn, as we have it here, could easily do everything the *Virtua Racing* coin-op does and more besides. There's all kinds of specialised custom hardware that could texture-map the cars in *Virtua Racing* – making it look a whole load more realistic – without losing any of the speed of the original.'

In fact, the system described sounds more reminiscent of Sega's new coin-op, →

The Hitachi connection

Hitachi, it seems, have been instrumental in the genesis of the Saturn. Last autumn they introduced their SH7032 32bit RISC chip, which boasts digital signal processing (like in *Virtua Racing*) and high speed screen refreshing.

Hitachi approached Sega with the intention of licensing their chip technology for use in a 32bit game system. Following rapid negotiations, Sega and Hitachi formed a merger in September of 1993 and announced that Sega were to utilise the Hitachi chip in a 32bit system, to be available by autumn 1994, and also to research and develop 64bit chip technology.

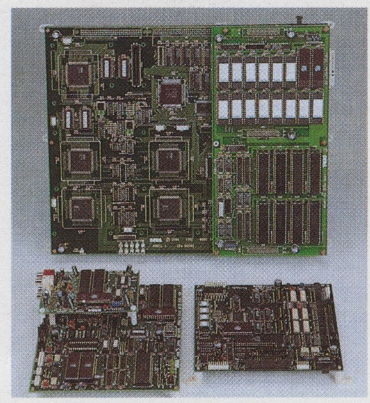
Some of Hitachi's technical staff are now permanently based in Sega's offices, under the auspices of their Saturn division.

Sega Japan for CATV

Sega's cable gaming technology is currently under test in 500 Japanese homes. The Tokyo Cable Network and Kandenko are cooperating with Sega to produce a game receiver for downloading Mega Drive games over cable networks.

A similar set-up involving AT&T in the States called The Sega Channel (see Edge two) is now expected to take place in March '94. Sega will first monitor the reaction of the 500 Japanese families playing host to the system and then decide whether to introduce the full system next year.

Between 50 and 100 titles will be available and the scheme is expected to cost between ¥2000-3000 a month (£12-18).



Sega's Model 1 PCB as used in *Virtua Racing* and *Fighters*. Saturn manages to squeeze all this into one console

← working title: *Daytona Racing* .The hardware powering that, the Model 2 system board co-developed with American giant General Electric (Model 1 can be found inside a *Virtua Racing* coin-op), is reckoned to be comparable with Namco's System 22 polygon texture-mapping system found in their astonishing *Ridge Racer* coin-op.

Fantastic as it sounds, such powerful hardware does make sense: it puts Saturn way ahead of CD32, 3DO and Jaguar and makes it easy to port sophisticated coin-op games almost directly to the machine.

Sony's Epic team – responsible for generating software for the new PS-X system – have also experimented with the Saturn emulation hardware and have produced a demo which was reputedly more impressive than Sega's own. Sony hopes that by working on both systems in parallel, software is easily ported from one machine to the other, and this will help hedge their bets over the future of their PS-X system.

A 'Creative Centre' for Saturn software development has already been established by Sega, and the first titles mooted include *Virtua Racing, Virtua Fighters, Saturn Soccer, Outlanders, Record Of Lodoss War* (RPG), and something by the name of *Sonic.*

The Latest information from our Sega contact is that there will be no cartridge port, and as expected, no downwards compatibility with Mega Drive software. Putting their faith directly in CD, Sega's Saturn boasts a quadruple speed (600K/sec) CD drive with a RAM cache of 4Mb to cut down on CD accessing time, plus a score/game save system.

An interesting rumour circulated in Japan when it was discovered that Sega have contracted JVC and Yamaha to develop the CD hardware. Writeable CD-ROM isn't really feasible for a low cost games system, but partially writeable? Whatever happens, Saturn's CD capabilities should wipe the floor with slowcoaches like 3DO and CD-i.

'It seems ludicrous to offer so many powerful hardware features if you're not going to include a CD drive,' agrees our informant. 'What's the point of being able to texture-map 3D polygons in real time if you don't have enough memory on a cart to provide all the data you want manipulated?'

One other viable alternative is 'playing by wire'. It is known that Saturn comes with all the necessary adaptors needed to plug into a TV cable network, and with The Sega Channel under test in the US and Japan, Sega have a cheap way of pumping games into Saturn systems, negating the need for cartridge or CD purchases of any kind.

Saturn is very much designed with the future in mind: compatible with HDTV (High Definition TeleVision) MUSE systems, it can display a Widescreen (16:9) image and can be used as a command system for interactive HDTV, such as quiz shows teleshopping and video-on-demand. There's even a rumour of a built-in voice recognition system. It really looks like Saturn is going to be out of this world. E

Saturn Tech specs

After the first tentative technical specifications (revealed in **Edge** one) the updated specs are as follows:

CPU: Hitachi SH7032 32bit RISC chip running at 27MHz

Custom chips: Sprite handler; polygon generator with texture-mapping/shading

Memory: 3Mb RAM; 4Mb cache on CD-ROM drive

Graphic display: 16,777, 216 colours, Widescreen (16:9) compatibility, with MPEG Digital Video as an option

Animation: 24 million pixels/frame

Sound: 32-voice PCM and FM

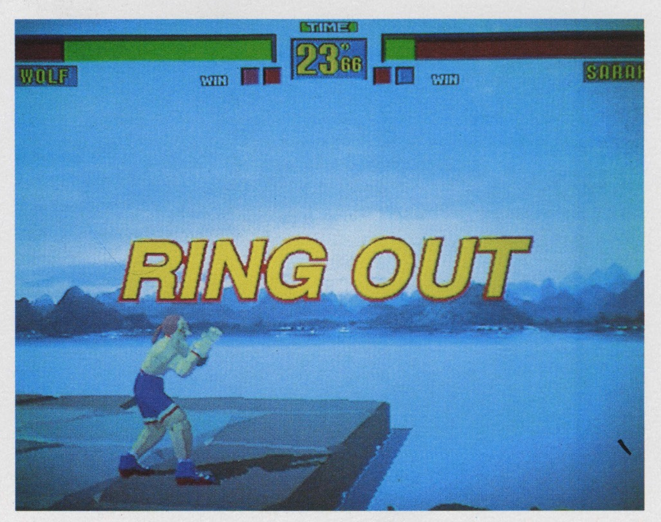
Release: November '94 in Japan

Price: $250-300 (£175-200)

When is it?

It's the year that Sony entered the videogame market. Working in collaboration with a large Japanese games manufacturer, Sony designed and built a powerful CD-based system, with potential for real multimedia...

Continued next page



If the specs and rumours are to be believed, this time next year you could be playing a coin-op perfect version of *Virtua Fighters* at home

head to head

'Nintendo have made their bed and now they'll have to lie on it. They have proven to be a great toy company but they are way out of position to compete in the new multimedia market.'

Trip Hawkins, president and CEO of The 3DO company

'I don't expect 3DO to be successful... They know marketing, we are developers. There's no way 3DO can beat us on the hardware side: it's impossible, they don't have the technical roots.'

James Clark, chairman, Silicon Graphics

it is...

1991. Sony announce that they will be making the PlayStation – a Super NES compatible machine, running SNES games on CD. After producing working units, Sony and Nintendo fall out and the PlayStation dream dies. Until now...

Sony PS-X has the 3DGE

With their PlayStation-X electronics giant Sony have entered the videogame market with all guns blazing. Edge runs for coverage...

Continued

Illustration: **Paul Kidby**

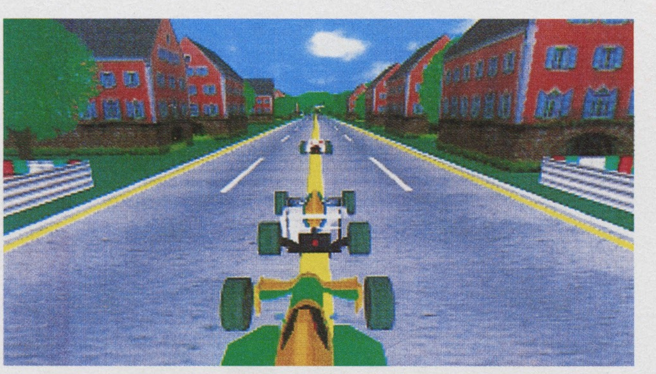
An artist's impression of Sony's PS-X machine. Good, isn't it?

Following the announcement that Sony are planning to enter the videogame hardware market (**Edge** four), some impressive details of the machine have surfaced.

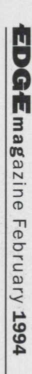
Branded the PS-X (PlayStation X), this CD-only multimedia station is powered by a 32bit RISC chip, but has the assistance of a custom graphics chip called 3DGE (3D Graphic Engine). Reported as being more powerful than the 3DO's graphics engines, it is capable of handling 360,000 polygons simultaneously and has access to an amazing 4,000 hardware sprites.

Screen display is standard 24bit true colour (16.7 million colours), and so although no MPEG Digital Video compatibility has been mentioned, it will almost definitely be built-in or available as a plug-in cartridge. Sound is handled by an EDPSM (Electronic Digital Processing Sound Module) at a frequency of 44.7kHz, which is slightly higher than the CD sample rate of 44.1kHz.

Understanding the importance of a decent catalogue of titles at launch (Commodore and Atari take note), Sony is already busy attracting publishers and →



The first software for PS-X is this demo produced by Sony's Epic team. With texture-mapped polygons of this quality, anything is possible





Namco's jaw-droppingly smart *Ridge Racer* coin-op is among the first candidates for Sony's PS-X machine. Let's hope, eh?

On release this month

16 Mega Drive games reviewed in: MEGA

Highest rated: **NHL Hockey '94** 92%
Lowest rated: **Chester Cheetah** 47%

36 PC games reviewed in: PC GAMER

Highest rated: **Sam & Max Hit The Road** 93%
Lowest rated: **Strike Squad** 41%

14 SNES games reviewed in:



Highest rated: **R Type III** 83%
Lowest rated: **Cliffhanger** 36%

17 Amiga games reviewed in: AMIGA POWER

Highest rated: **Liberation: Captive II** 91%
Lowest rated: **Doofus** 4%

← developers to create games for the PS-X and for arcade cabinets containing PS-X hardware. The first named title is coming from Sony themselves, a game enigmatically entitled *Warlock*.

One big ally in Sony's forthcoming battle is Namco. The two giant Japanese companies announced a tie-up on November 15, in which Namco is to develop and supply games for the PlayStation X, for release at the end of '94 when the PS-X is due to go onsale. They will also be working with Sony to apply Sony's technology to new coin-op machines, in order to produce high-spec, low-cost units, to further their share of the industry. However, this does not affect their collaboration with graphics specialists Evans & Sutherland for developing more ambitious 3D arcade-based projects.

The Sony deal must be particularly pleasing for Namco's boss, Masaya Nakamura. At last he has a platform with which to compete – and beat – Nintendo, a company he despises. His rule over the Japanese games industry was broken when he was forced to sign a deal with Nintendo's boss Hiroshi Yamauchi: without the 8bit Nintendo market, Namco would probably have gone bust.

Namco's involvement is also important for several reasons: Namco are fast becoming synonymous with 3D development, having wowed arcade fans with titles like *Galaxian³* and the forthcoming *Ridge Racer*. Obviously, these are prime targets for release on the PS-X, and it also gives credence to Sony's efforts: if Namco are interested in Sony's technology, then it must be pretty damn good.

Engineers at Sega have admitted that Sony's PlayStation will be more powerful than Saturn, although both machines represent huge leaps in gaming technology. But just to make absolutely sure, Sony is hedging its bets by developing software for both the PS-X and Saturn, so whichever system eventually takes off, Sony are sure to be backing the winner. **E**

Project Reality – SGI respond

Following Edge's report on the possible split between Nintendo and Silicon Graphics Inc, David Bagshaw, vice president of marketing at SGI, wrote to us:
'If the industry has not heard much from Nintendo on the project recently, it is because our two companies have stayed focussed on delivering a 'way past cool', next generation gameplayer based on Silicon Graphics' leading edge 64bit processor technology.

'Our work on Project Reality is proceeding on schedule. We are excited about the progress we are making, and are confident that the industry will be impressed with the resulting technology.'

So. That's told us. However, it still doesn't explain why a certain UK software house is working on 32bit graphics hardware for a leading Japanese games manufacturer. Stay tuned, sports fans...

Sony PS-X Tech specs

The first tech-specs for the machine have been released by Sony in Japan:

Main CPU: R3000A 32bit RISC chip running at 33 MHz
Clearing capacity 30 MIPS
Bus band width 132 Mb/sec

Custom 3D Engine: 3DGE chip for sprite handling; polygon generation
Clearing capacity 66 MIPS
1,500,000 polygons/sec (plain)
500,000 polygons/sec (texture mapped and light-sourced)

Data Engine: Clearing capacity 80 MIPS
JPEG/MPEG compression

Graphic display: 16,777,216 colours, Resolution: 256X224 – 640X480

Memory: 5Mb internal RAM; RAM cards for status/high score save

Animation: 360,000 simultaneous polygons; Maximum 4000 sprites (8X8 pixels) with scaling and rotation
No CLUT limit, no line restriction
Simultaneous playfields

Sound: 16 bit Stereo ADPCM at 44.1Hz, 24 voices

Release: December '94 in Japan

Price: ¥50,000

BUZZ words

64bit

cor **64bit** is like twice as fast as anything else out at the moment blimey just think all the games will be twice as fast with extra fast music that's it i'm off to the shops to get me a **64bit** clock to give me 48 hours in a day then i'm gonna get a **64bit** pair of trainers and win the 100 metres in the olympics yeah i'll be dead rich i'll get me a **64bit** Ferrari that'll go 400mph...

Continued next page

Jaguar bares its claws

Photograph: Stewart Whale

The already oversubscribed videogame marketplace just gained an extra 32bits with the launch of Atari's Jaguar. Edge examines the machine and its future...

Atari's 64bit machine finally hits the shelves, with 40,000 units shipped into America, retailing at $250, and 4,000 units into UK stores, pre-Christmas, retailing at £200. Initial response has been excellent: FAO Schwarz in New York took delivery of 72 Jaguars – and sold them all in two hours (although admittedly most were advance orders).

Atari maintain that the reason for the early but limited shipout is to satisfy the immediate demand from the 'early adopters' and videogame cognoscenti, generate word-of-mouth about the machine and, in with the UK batch, to combat grey importers.

The first delivery of Jaguars should be available in the London area from Virgin Megastores, HMV and Harrods. A full roll-out of PAL machines commences in the UK from March 15, when 'tens of thousands' will go to the major highstreet stores such as Comet, Dixons, Toys 'R' Us and so on.

And, for once, gamers have reason to buy the PAL machine, as two versions have been developed – one to work on 525-line NTSC TVs and one to work on the 625-line PAL system used in the UK. The PAL version – unlike the bodged machines offered by Sega and Nintendo – offers a fullscreen display and no discernible difference in operating speed.

The unit comes boxed with a copy of *Cybermorph* (Testscreen, **Edge** four), one joypad, a power lead and an RF lead for connecting to a TV. Atari will also be selling S-VHS and composite video leads that plug into the AV socket on the back, allowing the Jaguar to be plugged into compatible TVs for a sharper picture. Both leads have R and L stereo outputs for connection to stereo TVs or to external amplifiers.

So far there are just three games on →

Continued

Stop using Lynx as a weapon...

According to sources in the US, Atari's distribution policy leaves something to be desired.

Apparently, tactless sales reps have been giving videogame stores an ultimatum: 'Unless you continue to stock the Lynx and software, you can't have the Jaguar', they've been saying.

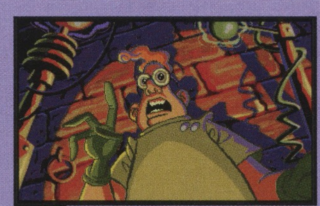
'Well, in that case, you can take your Lynx *and* your Jaguar, and shove it where the sun don't shine', has been the typical response.

The Lynx is a dead system in the US and, sensibly enough, most stores would rather devote the shelf space to other systems.

Looks like you'll have to sell Jaguar on its own merits, guys.

Attract mode

This is Edge's regular spot where the best intros and attract modes are brought to your attention. This month, the stars of the small screen are Sam and Max – the eponymous freelance policemen of LucasArts' arcade adventure. These wacky funsters get a proper Testscreening on page 58, but meanwhile sit back and enjoy the opening shots from this animation tour-de-force...



1 Close-up on mad scientist, in typical mad scientist attire. In a heart-rending scene he explains how unhappy he is that his girlfriend thinks they should just be 'friends' – after only three dates. 'You never gave me a chance!' he cries.



2 Cut to wide angle. Having been given the big 'E', our poor mad scientist has only course of action left open to him: fry the ungrateful hussy like a 'pork sausage'. The victim, bound to a chair, is dimly oblivious of her impending doom.



3 Suddenly there's a resounding crash and a billowing cloud of dust. Enter Sam and Max – freelance police. The astute self-employed detectives quickly ascertain that this is a 'vulnerable hostage' situation, and respond in the regulation fashion.

Complete Atari Jaguar thirdparty release schedule

Publisher	Title	Release
Accolade	Hardball III	TBA
Accolade	Brett Hull Hockey	TBA
Accolade	Charles Barkley Basketball	TBA
Accolade	Jack Nicklaus Challenge	TBA
Accolade	Bubsy The Bobcat	TBA
Activision	Return To Zork	TBA
All Systems Go	Jukebox	April 94
Anco	World Cup Kick Off	April 94
Beyond Games	Battle Wheels	April 94
Beyond Games	Mechtiles	May 94
Broderbund	TBA	TBA
Domark	TBA	TBA
DTMC	TBA	TBA
Elite	Power Slide (working title)	Oct 94
Gremlin	Zool 2	Oct 94
Gremlin	TBA	Late 94
ICD Inc	TBA	TBA
Id Software	Doom: Evil Unleashed	July 94
Iguana	Mortal Kombat	June 94
Infogrames	Alone In The Dark	TBA
Interplay	Battle Chess	June 94
Interplay	Another World	Aug 94
Krisalis	Soccer Kid	Mid 94
Loriciel	Tennis	Oct 94
Loriciel	TBA	Nov 94
LucasArts	TBA	TBA
Maxis	TBA	TBA
Microids	Navy Commando	Sept 94
Microids	Evidence	TBA
Microprose	Gunship 2000	Late 94
Microprose	TBA	TBA
Millennium	TBA	Late 94
Ocean	TBA	May 94
Ocean	TBA	Late 94
Origin	TBA	TBA
Retour 2048	Zozziorx	April 94
Retour 2048	Indiana Jags	June 94
Spectrum Holobyte	Star Trek: Next Generation	TBA
Sunsoft	Aero The Acrobat	TBA
21st Century	Pinball Fantasies	Sept 94
Telegames	Brutal Sports	Mid 94
Telegames	Casino Royale	April 94
Tradewest	Double Dragon	May 94
Trimark	TBA	TBA
UbiSoft	Jimmy Connors Tennis	TBA
US Gold	Flashback	July 94
V-Real	Arena Football	Sept 94
V-Real	Horrorscope	Oct 94
Virgin	TBA	Nov 94
Williams/ Midway	TBA	TBA

← sale: *Crescent Galaxy* (Testscreen, p66), *Evolution Dino Dudes* (aka *Humans*) and *Raiden*. Atari hope that carts will go on sale in the UK at three price points: £39, £45 and £59.

The concept

of a 64bit machine seems a little ambitious to say the least. **Edge** spoke to Atari's UK marketing manager **Darryl Still** about the machine and its prospects.

'It is important to note that Jaguar is not just the first 64bit console, it is the first 64bit system of *any sort*,' maintains Darryl. 'Intel have not yet shipped Pentium, therefore Atari – and the games industry – are leading the technology boom.'

But with everyone else going 32bit, why make that jump in technology? 'Atari felt they could skip 32bit,' Darryl explains. 'Every few years the market gets stale and waits for new technology. This time the industry thought that the new technology was high price 32bit CD multimedia: Atari disagreed.'

'Every major UK software house is developing for Jaguar – in some cases three or four titles.'

Darryl Still, marketing manager, Atari UK

Not only has Atari skipped 32bit, but they also have a healthy disregard for CD: 'We felt that CD as a medium storage may well work for the future, but as of now CD software leaves a huge amount to be desired. Programmers need to learn how to use the medium and require hardware strong enough to cover the problems caused by CD.'

Having said that, Atari do plan to release a double speed (300K/sec) CD drive during 1994, retailing at £200. The unit plugs into the cartridge port on top of the Jaguar, turning it into a fully specced multimedia machine – and making it look like a toilet into the bargain. The CD unit has already been dubbed 'the crapper'.

'Yes, we have CD units in development,' Darryl says. 'We're working closely with developers to ensure that future peripherals get software that does them justice.'

With the future in mind, Atari also have a VR helmet planned and, unlike Sega's Mega Drive system, Jaguar genuinely has the power to process reasonably complex stereo images. A price and date for the VR headset has yet to be fixed.

There are few doubts surrounding Jaguar's technical competence, but most third party publishers are worried about Atari's muscle in bringing Jaguar to what is a massively competitive market.

'Atari has managed its resources very carefully over the last three years in the knowledge that this is coming,' explains Darryl. 'We have plans for a full campaign in 1994 on TV and press to launch the future of home entertainment. A European spend of around $30M is in discussion.'

But the big question mark hanging over Jaguar is software. The first batch of games – *Cybermorph* excluded – are looking very average indeed.

'Atari realise very well that software is important to the success of any hardware product,' says Darryl, 'that is why, over a year ago, Atari established a development force of their own in order to ensure a strong software base quickly for Jaguar. There will be ten titles available for the European launch and 40 by the end of the year, published by Atari alone.

'We have also put into force our strongest ever third party software licensing programme. In the UK, every major software house not directly connected to another hardware platform is developing for Jaguar – in many cases three or four titles.'

So, do Atari have it sussed? Sales, marketing and time will tell.



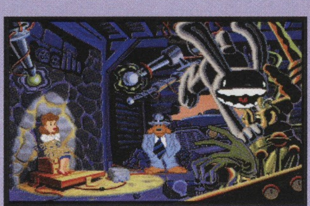
Who is it?

This programmer started his own business when he was just 16. Now, 12 years later, his company has entered the super-league, providing hardware and software for the biggest game manufacturers in the world...

Continued next page



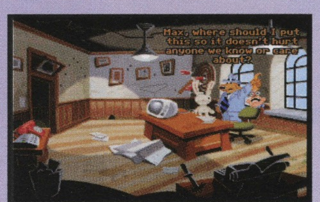
4 **Cut to extreme close-up on the alarmingly casual duo. 'Does this mean we get to kick some puffy, white, mad scientist butt?' ponders Max the rabbit. Given the duo's prediliction to violence of varying sorts, the answer is, of course, yes.**



5 **Cut back to wide angle. With one tremendous leap, Max clears the room and is upon the mad scientist before he can put his heinous plan into effect. As Sam fiddles with the victim's ties, the brutal off-screen violence is silhouetted against the wall.**



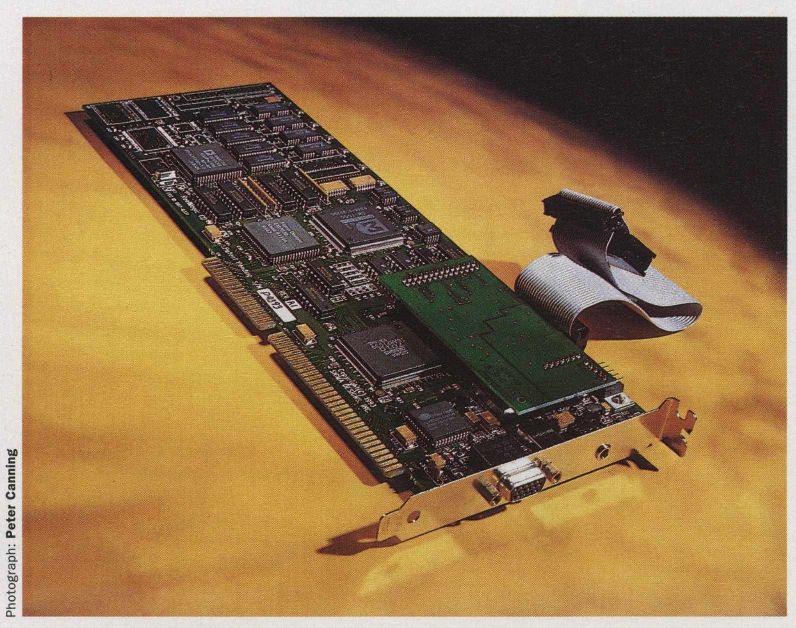
6 **Close up on Max, who appears to have succeeded in subduing the scientist. In fact, his subduing tactics seem to been a little too extreme; but closer inspection shows that the mad scientist was actually an automaton of some description.**



7 **Roll opening credits and cut to Sam and Max's office. Having kept the head as a souvenir, they quickly realise that the ticking noise is not a good sign. Hurling the head out of the window, the pair survive to accept another mission. Game on...**

Sigma Designs are the first to bring the PC kicking and screaming into the full-motion video arena. Edge gets 'reel' with Sigma's new Reelmagic system...

PCs get FMV



Photograph: Peter Canning

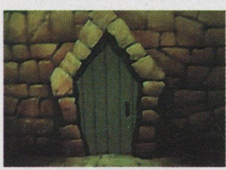
The Reelmagic board is a massive beast that'll devour a full-length 16bit slot with ease. It also needs to connect up with your own existing video board – and CD-ROM interface

it is...

Jez San. His company, Argonaut Software, is well known for 3D games like *Starglider 2*. But more recently, they've been responsible for Nintendo's SFX chip, of which the mark II version is soon to appear running *StarWing 2* and *FX Trax*.









Dragon's Lair **– the ten-year-old non-interactive arcade game. Still, at least it looks nice...**

There's a lot of laughably optimistic PR about interactive movies around at the moment. A few blurry screenshots from Top Gun and every one's hailing it as a multimedia revolution. Okay, that's a touch cynical, we confess: no-one can deny the importance of MPEG-standard compression to the CD-ROM format – It's what gives VideoCD its raison d'étre. It'll allow discs to be transferred between MPEG-compatible machines with ease, and it gives all the world's big electronics companies the excuse to try to flog you some expensive new piece of kit.

Anyway, the good old IBM-standard Personal Computer has finally joined the list of machines that support full-motion video. It's all thanks to Sigma's new 'Reelmagic' board – an add-on video board that gives the PC MPEG-standard VideoCD technology. To get 'reel', all you need is a 386 PC with 150K/sec CD drive (minimum requirement), a free 16bit expansion slot, and your own compatible video board. Oh yeah, and you need the odd spare £400 quid.

Then it's away you go. So what can you do with Reelmagic? Well, for starters you'll soon be able to watch that now famous blurry clip from Top Gun in the comfort of your office. Oh yes, and you'll be able to play interactive CD games – as and when they're launched. And you can watch any MPEG standard VideoCD footage on your PC monitor. Impressive, eh?

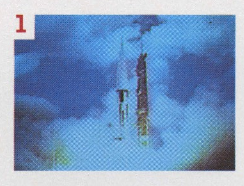
The Reelmagic board that **Edge** tested came with the infamously uninteractive *Dragon's Lair*, not the promised MPEG version of Activision's *Return To Zork*. Still, *RTZ* is no gem for interactivity itself, so we made the best of it with *Dragon's Lair*, which wasn't a bad little conversion, really.

Installation of Reelmagic is fairly simple. The board just plugs into the feature connector on the PC's own videoboard, then you have to load up suitable software drivers from floppy disk and reconnect your monitor. Sigma provides a clutch of demos on a single CD, which you can run with two supplied utilities – one for DOS, one for Windows. You also get a built-in Adlib sound driver – a very useful inclusion, in fact, as Reelmagic seemed to be very unhappy about our existing sound setup.

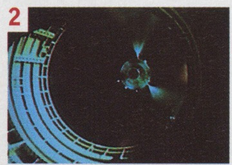
Anyone who has had any dealings with PCs at all will be more than familiar with the whole PC compatibility issue. What IBM planned as the most compatible machine ever, has recently turned into a nightmarish mess of conflicting standards – Vesa's Local Bus and Intel's PCI standards being just the latest example of this.

And anyone that's ever spent the odd 72 hours trying to get Virgin's *7th Guest* on CD-ROM to work will know exactly what's at →

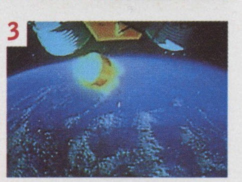
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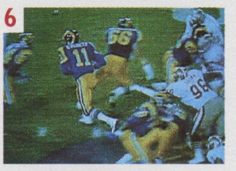
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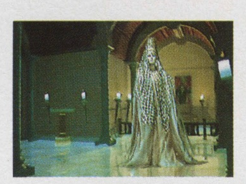


The best bits of the Reelmagic demo CD:
1 - 3. A Saturn 1b blasts-off in FMV, followed by second and third stage separation
4 & 5. *Escape From Cybercity* – a short intro to an FMV conversion of the CD-i game
6. One three-second NFL football clip
7. Bobby Kennedy doing his space talk bit

How it fits in with the standards

Reelmagic works with PC-based MPEG files (with the extension .MPG) giving 24, 25 or 30 frames per second full-motion video with 32,768 colours, and 44.1KHz, 16bit stereo audio. Other files supported include VBS (video bit stream) files and MPV (MPEG video) files. VideoCD DAT files (the usual extension for this type of data) are also fully supported.

The demo disc gives you simple DOS and Windows MPEG viewers, but you can also use Windows' built-in Media Player. For serious PC viewing Microsoft's excellent Video for Windows is a must – needless to say, Reelmagic files can be played through this too.









The MPEG version of *Return To Zork* is much smoother, but the acting is still completely awful

← stake here, and what questions you have to answer: Which graphics board works with which soundboard? Which software works with your Vesa driver? Have you got enough DOS memory after all your drivers (CD-ROM, Soundblaster, memory manager) are loaded? What about your DMAs and IRQs?

Thankfully, Sigma have spent time making Reelmagic easy to use. The setup system is the only one **Edge** has seen to give you help with fine-tuning the system interrupts and DMAs. And, the disturbingly thin instruction book aside, it's all fairly well presented. The only compatibility problem Sigma have had (or are admitting) with Reelmagic is Local Bus video boards. So check before you buy if you've gone for the Local Bus video standard.

But what about the quality of the images? Well, generally the Reelmagic did pretty well. Fullscreen on a 14" SuperVGA monitor the images were a touch blurred – as with the CD-i, this was more pronounced when the screen was very full. But compared to the tiny moving images PC owners might have seen in various existing interactive CD products, Reelmagic was very, very impressive indeed.

Remember that as the MPEG decompression is handled by the board independently of the PC's CPU, the speed of your machine is not an issue. So compared to what you get from existing PC software, Reelmagic is very big news indeed.

It's never going to be any good for watching movies on – but hey, who really wants to watch films on a 14" monitor through a £2,000 PC? That's what your nice big TV and VHS are for. But when you start to think of the potential applications for MPEG video in PC games and interactive CD titles, then you're really on the right track.

The CD demos that Sigma provides with the board are a bit spartan, with some just plain dull corporate-type offerings thrown in just to pad it out. Still you've always got the graphic loveliness of *Dragon's Lair* and soon, *Return To Zork*, to turn to. And the MPEG bits of both are truly excellent.

But just think what'll happen when the really good stuff starts to go the MPEG way on the PC. Think about MPEG in CD newies like *Rebel Assault*, *Saurus*, and *Dragontales*... Now that's all starting to get a bit more exciting.

Reelmagic is probably just the first of many MPEG systems for the PC, so it's all bound to get better, and much more user friendly. And cheaper – because pricewise, Reelmagic certainly isn't any bargain hunter's dream. At £400 it's sitting pretty squarely in the corporate market. Games developers will need a few more units out there before they really get into MPEG.

But who knows? In a few years the thought of a basic PC *without* MPEG compatibility might be just laughable.

Over the wire

A regular spot where Edge reports on how technology will shape the news of the not-too-distant future...

...10:30am local time, LondEast News Bulletin

TV interviewer Ade Royd has filed a countersuit against cultural minister Dennis Stallimann following last week's sensational announcement that Royd would be held personally accountable for his TV interview of March 24 this year.

Royd is one of two 'Combines' (Combination personalities) used by the CBBS news network in the UK - both of which are still undergoing trials. Stallimann filed a libel suit after a TV interview in which Royd accused him of corruption, fraud, negligence and incompetence, backing up his accusations with archived data from sources in - it's estimated - up to 14 countries.

His developers say Royd's neural networking and multitasking let him think and talk at the same time. More precisely, in the time it takes an interviewee to draw breath, Royd can find and recover up to 30Mb of data, correlating and cross-checking it against other sources virtually instantaneously.

Stallimann has been fighting for compensation since the interview, shown on network TV last year. His main problem until now has been finding someone to sue. Royd's manufacturers claim they simply produced a human-like machine, and that its subsequent programming was outside their control.

Royd's tutors, meanwhile, claim they merely taught him how to think, not what to do with that ability. Stallimann finally gained a judgement in HullCentral earlier this year that ruled Royd himself could be prosecuted.

And unless this decision is overturned before the outcome of Royd's trial, it will have set a legal precedent. Ade Royd will become the first artificial intelligence to be attributed personal accountability.

Royd is unrepentant. In a press conference this morning he announced his counter-suit, claiming Stallimann had used public funds to pay for his legal costs so far, that all his (Royd's) allegations could be substantiated, and that Stallimann had approached employees of the RandDev Corporation (Royd's manufacturers) and MacroSoft (his programmers), attempting to secure favourable testimony and access to confidential documents in exchange for undisclosed sums.

Royd has also announced his intention to conduct his own defence. In the face of the HullCentral ruling, the judge is powerless to refuse. The trial is due to begin this afternoon. In the last month, three cabinet ministers have resigned and the government is now facing a major constitutional crisis.

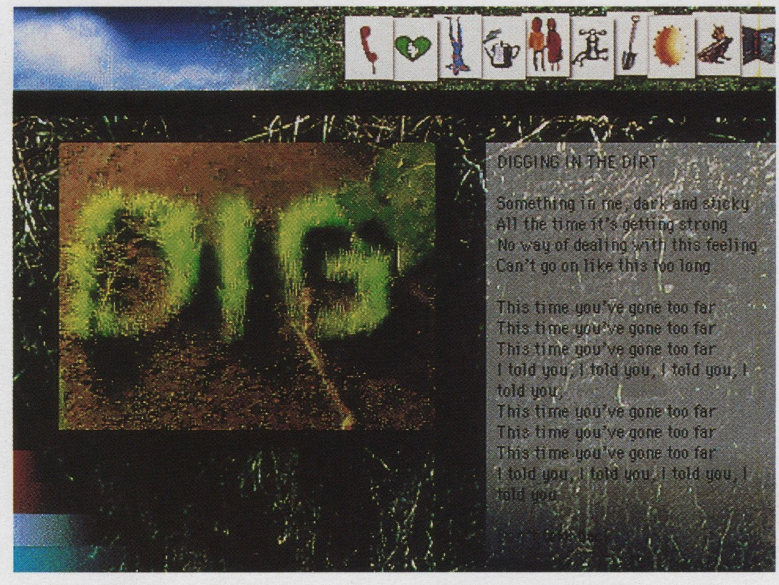
...transmission ends...

Contributions to **Over The Wire** are welcome. Please send your articles (400 words max) to **Edge**, 30 Monmouth St, Bath BA1 2BW. Get your piece printed and win a year's subscription...



Peter Gabriel explores CD-ROM

Peter Gabriel's new CD-ROM experience, *Xplora 1*, was revealed to the press at his Realworld Studios. Edge was there...



***Xplora 1* lets you hear all the tracks from US, and view the videos at the same time. If you click on the lyrics to the right, the music and video jump to that point in the song**

Xplora 1: the facts

The Apple Macintosh version of *Xplora 1* contains 100 minutes of CinePak compressed QuickTime video, with around 40 minutes of 8bit audio, more than 100 colour images and a whole book's worth of text, totalling over 600Mb of data.

Over 50 artists from 18 countries are featured on the disc, which took 40 people over a year to make and cost $250,000.

***Xplora 1* retails at £39.95 and comes with a lavish book which expands upon the multimedia work of the Realworld artists, including Peter Gabriel's planned 'experience park' for Barcelona.**

Multimedia champion **Peter Gabriel** has just released his first interactive CD-ROM, *Xplora 1*, published by his new company, Realworld Multimedia.

The disc is primarily based on the music, videos and art commissioned for the US album, although it also contains samples of his earlier work and of tracks from other Realworld albums. There is a virtual trip around the Realworld studios in Box, Avon, plus an insight into Peter's personal world with home movie clips, photographs and information on his work with Amnesty International and the Witness Project.

Xplora 1 contains musical instruments which can be played via the mouse, plus a special instrumental version of Digging In The Dirt which can be remixed using an onscreen four channel mixing desk.

A narrative thread is provided by a case, which you carry with you throughout your journey. Various screens contain items to collect, some of which – like backstage passes – allow access to later parts of the disc. Fill the case and you are rewarded with a secret onscreen surprise.

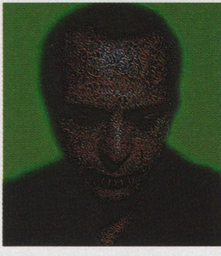
Everything is accessed by a mouse and pointer system but the four elements of fire, water, earth and air are used instead of conventional icons.

Xplora 1 was revealed to the press at the Realworld studios and **Edge** was there to speak to Peter Gabriel about the project:

Edge Why take this approach? What are you trying to add to the music?

Peter Gabriel 'I've always been fascinated in the other multimedia formats and I think it's exciting this idea of allowing people to get inside the work, and not just have to receive it passively.

'I do think there's going to be this crossover where the boundaries between information, education and entertainment are all getting washed away. So I think it will be fascinating to look at involving people who do great musical work or visual work and producing discs that will be

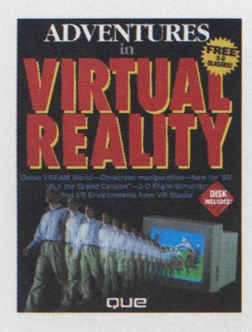


The typically esoteric artwork for Gabriel's *Xplora 1* packaging



Fill *Xplora 1*' s case (including US condoms) and a surprise awaits...

Continued



Essential reading

If **Edge**'s Virtual Reality feature in issue three whetted your appetite for more from the world of VR, Adventures In Virtual Reality by **Tom Hayward** (published by US publishers Que) is the ideal next step.

The book takes a friendly, step by step approach to explaining VR – from the earliest developments by pioneers like Ivan Sutherland and Jaron Lanier, to the latest in commercial VR from Sense8 Corporation and the UK's own Virtuality Group.

At slightly over 250 packed pages, this is certainly not to be considered light reading, but Hayward's balance between pedagogical fact-peddling and easy-going VR chat keeps the whole thing afloat.

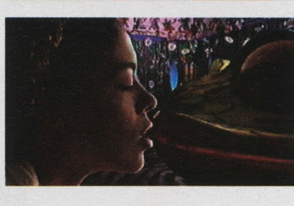
And that's before Que have even played their masterstroke – the covermounted PC disk of VR demos – created with VR authoring packages like Virtual Reality Studio and the VREAM development system.

All in all it's a decent little introduction to VR. Contact UK suppliers, Computer Manuals on (021) 706 6000, for more info.

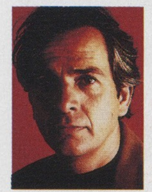


Video footage for The Mindblender ride was generated by scanning flat artwork into a Silicon Graphics system. The artwork was then texture mapped and animated in 3D





'For a number of years, I've wanted to be an experience designer rather than just a musician.'



Peter Gabriel

educational for kids.'

Edge So do you have any more interactive products in the pipeline?

PG 'There are a few things that we've been talking about so the plan is, over the next two months, to establish something more serious and get it set off.'

Edge Would you consider using videogame technology to add a storytelling element?

PG 'Yes, I think that storytelling would be a great vehicle, and we could do a lot more with it. We're very much learning at the moment. I'm not completely comfortable being the guide [in *Xplora 1*], so I think there are better ways to do that which are probably a bit more peppy or zappy, whatever the word is.

'We're trying to do an anti-racist game, and create a superhero who would go around... The French are very much into this because of the increase in racism, so we're trying to look for people who could do that. It's always good to know who's doing interesting things.'

Edge There was talk of you writing soundtracks for videogame. Does that interest you at all?

PG 'Actually I had a fax last night; Virgin games in America said they wanted to talk to me about a project. I think if I'm going to do something, then I'd probably be more interested in getting involved in the process, rather than just be a soundtrack producer.

'The work I did with the Passion record I really enjoyed; that's something I'd like to do, to create a visual world that goes along with that.'

Edge Are you happy with *Xplora 1*?

PG 'I still see things that I'd like to be better, and I can see what we can do next time. I was quite worried about it, then when I went to a multimedia conference, and saw what the other people had done and I felt much better!'

Another strange offshoot of the US album is The Mindblender Rock Motion Theatre – a motion ride which utilises the Kiss The Frog video footage. Inside two 75-foot long trucks, HDTV screens display the video footage and the seats move in time to the music/action.

The video footage was directed by **Brett Leonard** who, with his wife and partner, Gimel Everett, was responsible for The Lawnmower Man movie.

'Kiss The Frog is no ordinary video,' says Brett. 'The film was created for The Mindblender experience; it's also the first music video to be completely computer generated.

'With the ride, Peter and I wanted to do something different. Having seen most of the ride films that are out there, they're all about dodging things and are shot from one point of view, which would have been boring for me directorially. Peter wanted to break some barriers and actually have the seats dance.'

Gabriel laid down tracks for the chairs like music, programming them to move in time with the flow of the song and the video.

'It's gentler than most rides,' explains Brett, 'it rocks and pumps you in time to the music. It's the first music-driven ride film ever made and I think we've just scratched the surface.'

The Mindblender is currently touring America, and discussions are under way to bring it to the UK.

Where is it?

This country has over 40 different magazines dedicated to videogames on consoles and computers. More than a million copies are sold every single month, with a pass-on rate of between two and three people for each mag

Tetsujin delayed

Following last month's news about NEC's Tetsujin hardware, it now looks like the Japanese computer giant has decided to play it safe.

A delay of at least six months has pushed the launch of Hudson Soft's 32bit hardware into the last quarter of 1994, when both Sony and Sega are also expected to unleash their powerful new hardware.

The hugely impressive specs of both these systems has probably convinced NEC that their hardware wouldn't be able to compete. Now there are rumours that the system might even be upgraded to 64bit.

Next month Edge will have more news on Tetsujin and screenshots of games in development. The hardware war has the heat turned up another couple of notches...

Smallprint: If you'd like more information about *Xplora 1*, Realworld products, or Amnesty International, call The Box magazine on 0225 744494

3DO: delays and disappointment

With scarce advertising, poor software and limited sales, 3DO has got off to a shaky start. Edge investigates

it is...

Surprisingly, Britain. With a population roughly one-fifth the size of America's, the UK manages to sustain more videogames magazines than its transatlantic counterpart, which manages less than half the amount



Photography: Peter Canning

Trip Hawkins' dream machine has already settled into the pattern of poor software support and inferior quality titles. Could the dream be over before it's even begun?

After a suspiciously low-key launch, 3DO is still struggling to make an impact on the videogames market. The first batch of game releases have been less than brilliant, and other non-game titles lack innovation. Limited amounts of press and TV advertising has been seen in the US and there's even a rumour circulating that Sanyo have canned their 3DO machine – although this has been denied by sources close to the 3DO project.

With a poor initial library of titles and new games suffering delays, many 3DO owners in the US have returned their machines, demanding a refund. The release schedule for the coming year is far from inspirational. Ignoring the few 'edutainment' titles, all 3DO owners have to look forward to over the next few months is EA's crop of games, which are still unknown entities.

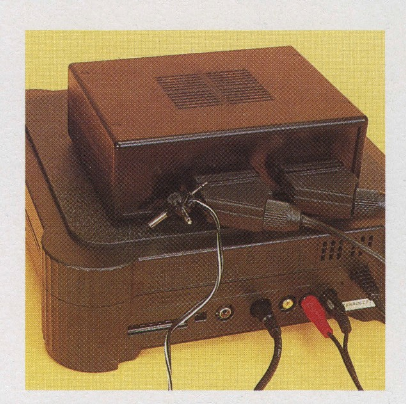
Both *Mad Dog McCree* and *Stellar 7* rated lowly in **Edge**, and *Battlechess* is unbelievably slow. In fact the main trouble with all the titles **Edge** has seen is the disc accessing. 3DO's double speed drive is a complete sluggard compared to even the most basic cartridge.

And with the emergence of details on new systems from Sega, Sony and NEC, potential purchasers are wary of nailing their colour to a particular machine's mast.

Another problem with

with Panasonic's FZ-1 3DO player is the lack of an RGB signal. This is something that's prevented many people from buying an imported 3DO player, when only multi-sync TVs or monitors could be relied upon to produce a colour display.

Now, a black box of tricks converts the NTSC S-Video picture to RGB Scart and all that's needed is a Scart socket-equipped TV or monitor capable of handling a 60 Hz picture. For more information call MD Consoles on (0384) 480046.



MD Consoles' S-VHS to Scart box lets you use imported 3DOs on a PAL TV

Continued

3DO videogame release schedule

Publisher	Title	Release
American Lasergames	Mad Dog McCree 2	Mar 94
American Lasergames	Space Pirates	Mar 94
American Lasergames	Who shot Johnny Rock	Jan 94
Crystal Dynamics	Total Eclipse	Dec 93
EA	John Madden Football	Dec 93
EA	Peter Pan	Dec 93
EA	PGA Tour Golf	Jun 94
EA	Road Rash	Feb 94
EA	Shock Wave	Mar 94
EA	Twisted	Jan
94Interplay	Battlechess	Dec 93
Interplay	Out Of This World	Dec 93
MCA	Jurassic Park Interactive	Late 94
Microprose	CPU Bach	Dec 93
Origin	Shadowcaster	Jan 94
Origin	Super Wing Commander	Dec 93
Park Place Productions	3D Adventures	Oct 94
Park Place Productions	3D Football	Late 94
Psygnosis	A.B.S.	Aug 94
Psygnosis	Lemmings	Dec 93
Psygnosis	Microcosm	Feb 94
Readysoft	Dragon's Lair	Dec 93
Software Toolworks	Dragontales	May 94
Software Toolworks	MegaRace	Jan 94
Software Toolworks	Space Shuttle	Dec 93
Spectrum Holobyte	Star Trek: Next Generation	Late 94
Virgin	Night Trap	Dec 93
Virgin	Sewer Shark	Jan 94
Virgin	Demolition Man	Mar 94

For more information, call Krazy Konsoles (0422 342901) who are stocking the entire range of 3DO titles.

Data stream

Estimated UK advertising spend by Nintendo in 1992: **£12m**
Estimated UK advertising spend by Sega in 1992: **£11m**
Estimated US advertising spend by Nintendo in 1992: **$150m**[1]
Calls and letters received in US by Nintendo in 1992: **8m**
Value of US videogames market in 1982: **$3bn**
Value of US videogames market in 1983: **$2bn**
Value of US videogames market in 1984: **$800m**
Value of UK console market 1992: **£566m**[2]
Value of UK console market 1993: **£750m**[2]
Launch in UK of Super Nintendo: **April 1992**
Launch in UK of Sega Master System: **September 1987**
Launch in UK of Sega Mega Drive: **Aug 1990**
Sega advertising catchline (October 1989): **'Do me a favour, plug me into a Sega'**
Sega advertising catchline (May 1991): **'To be this good takes ages/Sega'**
Launch of Sega Genesis in US: **Feb 1990**
Launch of official Mega Drive in UK: **Sept 1990**
Estimated number of pre-sold official Mega Drives in UK on launch: **30,000**
Estimated number of unofficial Mega Drives in UK in September 1990: **140,000**
Launch of Game Gear in UK: **May 1991**
Birth of Sonic: **July '91**
Sega buy-out of Virgin Mastertronic: **Sept '91**
'Jimmy' makes his debut in Sega advertising: **Sept 1991**
Nintendo takeover all European distribution from Bandai: **1st April 1993**

Sources [1]Register-MEAL; Nintendo Of America; [2]Euromonitor Market Report

Konami support for Sony's PS-X

Sony's PS-X machine – see page 8 – has a powerful new ally in the shape of Konami.

Like Namco, Konami are expected to employ Sony's technology in 3D coin-ops, while also generating original titles for the PS-X console.

The interest shown by both Namco and Konami in PS-X only strengthens the notion that Sony have some extremely powerful hardware lined up.

3D is a new area for Konami, but one which it deems important to the future of its business.



Polynet Warriors **shows Konami's growing interest in 3D games**

Neo-Geo goes 32bit

SNK in Japan has released details of their new 32bit system called the Neo-Star – as Neo-Geo meant 'new world' so this represents SNK's ascendence into the world of 32bit hardware.

So far, details about the console are sketchy but it is destined to be a sizeable machine with a built-in CD-ROM drive – possibly compatible with the CD-i standard, and able to run full-motion video in conjunction with games on cartridge.

Powered by a RISC chip running at 14.5MHz, it will almost definitely contain dedicated 3D graphics hardware. No doubt SNK – like Nintendo – are worried that sprite-based games are starting to look jaded next to the latest polygon graphics – and then there are always the virtual reality applications to think about.

Unlike its little brother, the Neo-Star is fully expandable: an expansion port allows connection to all manner of peripherals – including a keyboard and modem for connection to cable TV. This would allow Neo-Star users to enjoy facilities like home banking, teleshopping and multiplayer games. It also has a much larger internal memory for the storage and manipulation of the extra information.

Infra-red controllers complete the picture, negating the need for clumsy wires.

Given the outlandish cost of the Neo-Geo when it first surfaced – and the subsequent cost of games – it's anyone's guess who much Neo-Star will retail for. More news as and when...

i wish...

Jon Hare

'...that the industry would finally tackle the one problem that's gradually strangling it – that's the incompatibility of formats. Rather than seeing one platform dominate – which let's face it, just isn't going to happen – I'd like to see publishers treating CD as a standard or single format, rather than giving it the luxury, exclusive image it still seems to be unable to shake off.

By agreeing to make a single format CD that would work on all CD-based machines we would do away with the endless format conversion problem, and instantly cater for the horribly splintered CD market that's emerging. The space on a CD would allow for all the different versions of the game code – CD^{32}, Mega CD, 3DO, PC-CD etc, while the game's graphics and sound could be shared by all the versions where technically possible. There could even be 8bit colour, 16bit colour, even 24bit colour versions of the same graphics, all slapped on the same CD, so effectively there would only need to be one CD for any one game. And if non-interactive prerendered intro animations have to be dropped because of a lack of space then that might even be a bonus...'

Jon Hare is the 'Orchestrating Director' of Sensible Software, a reknowned UK development team who are responsible for classic games including *Microprose Soccer*, *SEUCK*, *Wizball*, *Wizkid*, *Sensible Soccer* and *Cannon Fodder* (Testscreen p60).

Datebook

January

Consumer Electronics Show, Las Vegas: Thursday 6th-Sunday 9th January, The Show Centre, Las Vegas, Nevada USA organised by Consumer Electronics Group of Electronics Industries Association, call: 010 1 (202) 457 8700). Former trade-only event is now open to public. By far the biggest show in the games calendar, the event is populated by journos looking for the latest exclusives.
ATEI: January 25th-27th, Earls Court, London. Contact BACTA, Regents Wharf, 6 All Saints Street, London. Call: (071) 713 0302. Trade show only. A great place to check out the latest coin-ops and arcade machines.

February

Virtual Reality '94: Novotel, Hammersmith, London (071) 976 0405. Feb 1st-Feb 2nd, Open from 9.30-5.00. Tickets £10 on the door. Trade free. This event could well be *the* place to be in February.
AOU Show: February 22nd-23rd. Japan Convention Centre, Makuhari Messe, 2-Makabe Chiba-shi, Chiba, Tokyo. Call: 010 81 (3) 866 9371. Japan's BIG coin-op show: expect 3D games to be the talking point.
Blackpool Amusements Exhibition: The Wintergardens, Blackpool. February 22-24th. Call: North West Exhibitions on 0235 25252. The North's equivalent of the ATEI.

March

ACME Show: March 17th-19th. O'Hare Exposition Center, Chicago, US. For more details call the organisers on: 010 1 (708) 333 9292. Huge US coin-op show.
Taiwan Amusement Exhibition: Held at The World Trade Centre, Taichung, Taiwan. Contact Creative International Public Relations Consultants, 9th Floor, 21 Chung Ching S Road, Section 3, Taipei, Taiwan, Republic Of China. Tel: 010 886 (2) 393 7404.

April

International Computer Show: Friday 22nd April-Sunday 24th, Wembley Exhibition Hall (0222) 512128, Open 10.00-6.00 Fri-Sat, 10.00-4.00 Sun. Tickets £7 adults, children under 10 £5. Advance ticket discount. Good place to pick up bargains on all things computer-based.
European Computer Trade Show: April 10th-12th. Open from 9.30am to 5.30pm at the Islington Design Centre, London. For further details call: (081) 742 2828.

Show organisers: if your show isn't listed here, it's only because you haven't told **Edge** about it. Do so on 0225 442244, or fax us on 0225 446019, or send details to **Datebook, Edge, 30 Monmouth Street, Bath, Avon BA1 2BW**



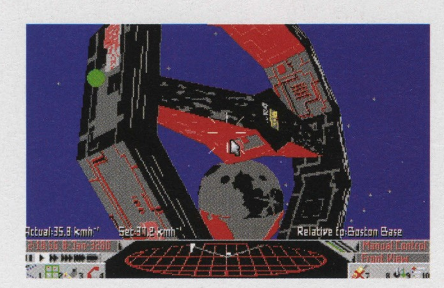
Frontier: Elite II Amiga **Super Mario All Stars** Super NES **Street Fighter II** Mega Drive **Night Trap** Mega CD **Alladin** Super Famicom (Japan) **Shining Force II** MD (Japan) **Day Of The Tentacle** PC CD-ROM **Frontier: Elite II** PC...



The very latest **charts** from across the entire world of videogaming

Amiga

1. **Frontier: Elite II** ***Gametek*** **(£30)**
2. Premier Manager 2 *Gremlin Graphics* (£26)
3. Alien Breed 2 *Team 17* (£27)
4. Championship Manager 94 Data Disk *Domark* (£10)
5. Championship Manager 93 *Domark* (£26)
6. European Champions *Ocean* (£26)
7. Hired Guns *Psygnosis* (£35)
8. Alien Breed: Special Edition 92 *Team 17* (£11)
9. Goal! *Virgin* (£31)
10. Sensible Soccer 92/93 *Renegade/Mindscape* (£26)



Elite II **(above) hogs number one spot for yet another month, but has it got what it takes to stay there and become the Christmas number one? *Hired Guns* is this month's biggest mover – but in the wrong direction, slipping down from two to number seven. And football seems to have found a home on the Amiga**



A real battle seems to be emerging on the Mega Drive chart, and for once there's not a spikey blue rodent in sight. As expected, *Street Fighter II* (above) has knocked the flash but limited *Mortal Kombat* from the top slot, as Virgin's *Aladdin* makes steady progress – up from last month's number five position. Domark's amazingly fast *F1* flies straight in at number four and it looks like any one of these three is a safe bet for the the Christmas number one. Unless *Sonic 3* turns up, that is...

Mega Drive

1. **Street Fighter II Champion Edition** ***Capcom*** **(£60)**
2. Mortal Kombat *Arena Entertainment* (£50)
3. Aladdin *Virgin* (£50)
4. F1 *Domark* (£50)
5. Jungle Strike *Electronic Arts* (£45)
6. Sonic 2 *Sega* (£40)
7. Ultimate Soccer *Sega* (£45)
8. Micro Machines *Code Masters* (£35)
9. Jurassic Park *Sega* (£50)
10. PGA Tour Golf 2 *Electronic Arts* (£40)

Super NES

1. **Mario All Stars** ***Nintendo*** **(£50)**
2. Street Fighter II Turbo *Capcom* (£60)
3. Mortal Kombat *Acclaim* (£60)
4. Striker *Elite* (£45)
5. Zombies *Konami* (£50)
6. Kevin Keegan's Player Manager *Imagineer* (£48)
7. Super Mario Kart *Nintendo* (£40)
8. Super Bomberman *Sony Imagesoft* (£45)
9. Super Kick Off *Imagineer* (£45)
10. Krusty's Super Fun House *Acclaim* (£45)



Mario All Stars **(above) must represent one of the best value for money packs ever. Not even the mighty *Street Fighter Turbo* can dethrone it, and it looks like it's going to stay that way for quite some time. The only other game to make an 'impact' this month is the brilliant *Super Bomberman* from Sony Imagesoft**

PC CD-ROM

1 **Day Of The Tentacle** ***US Gold*** **(£46)**
2 Dracula Unleashed *Mindscape* (£50)
3 The 7th Guest *Virgin* (£70)
4 Dune *Virgin* (£50)
5 Return To Zork *Activision* (£50)
6 Great Naval Battles *US Gold* (£45)
7 Kings Quest 6 *Sierra Online* (£50)
8 Kyrandia *Virgin* (£45)
9 Loom *US Gold* (£46)
10 Sherlock Holmes 3 *Mindscape* (£50)



Believe it or not, the CD version of US Gold's ***Day Of The Tentacle*** **(above) will fall from grace – one day. Could the blood sucking** ***Dracula Unleashed*****, straight in at number two, be the one to do it? Only time will tell, but if that fails, then US Gold's other biggie –** ***Rebel Assault*** **– looks to be the next best bet**

PC

1 **Frontier: Elite II** ***Gametek*** **(£40)**
2 Microsoft Flight Simulator *Microsoft* (£40)
3 Jurassic Park *Ocean* (£35)
4 Wing Commader: Privateer *Electronic Arts* (£50)
5 Street Fighter II *US Gold* (£30)
6 Zool *Gremlin Graphics* (£35)
7 Kasparov's Gambit *Electronic Arts* (£45)
8 X-Wing *US Gold* (£46)
9 Championship Manager 93 *Domark* (£30)
10 Premier Manager *Gremlin Graphics* (£30)



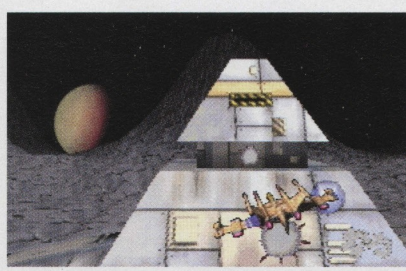
After only one month at the top of the chart, ***Batman Returns*** **falls back to where it's spent most of its days – at number two. It's also ironic to see the best game in the whole chart,** ***Final Fight*****, playing second fiddle to overhyped games like** ***Night Trap*** **(above). Also, expect to see Core's** ***Thunderhawk*** **making a dramatic entrance in the very near future**

Mega CD

1 **Night Trap** ***Digital Picture*** **(£50)**
2 Batman Returns *Konami* (£50)
3 Final Fight *Capcom* (£50)
4 Ecco *Sega* (£45)
5 Road Avenger *Renovation* (£40)
6 Sherlock Holmes *Sega* (£45)
7 Wolfchild *Sega* (£40)
8 Afterburner 3 *Sega* (£40)
9 INXS - Make My Video *Sega* (£45)
10 Jaguar XJ220 *Core Design* (£45)

Most wanted

1 **Total Eclipse: 3DO**
2 Rise Of The Robots: Amiga, PC
3 Virtua Racing: Mega Drive
4 MegaRace: 3DO
5 Theme Park: PC



Total Eclipse **on the 3DO (above) is still managing to whet the appetites of most people – as is** ***Virtua Racing*** **on the Mega Drive. Bullfrog's** ***Theme Park*** **also seems to have caught your imagination. Don't forget, send in your own most wanted lists to Edge, 30 Monmouth Street, Bath BA1 2BW**

SFC (Japan)

1 **Aladdin** ***Capcom*** **¥9000**
2 Ys IV *Tonkin House* ¥9800
3 Prime Goal *Namco* ¥8500
4 Art Of Fighting *KAC* ¥9800
5 Winning Post *Koei* ¥12800
6 Fatal Fury 2 *Takara* ¥9980
7 Super Mario Collection *Nintendo* ¥9800
8 Ranma ½ *Toho* ¥9800
9 Super HQ *Taito* ¥8900
10 Super Strike Eagle *Asmik* ¥9600



Just edging in at the bottom end of the Japanese chart is ***Treasure Land Adventure*** **from ex-Konami coders, Treasure (above). This is the second slick and colourful platform game to grace the Mega Drive from this talented team.** ***Gunstar Heroes*****, their debut title, while lacking challenge and levels, proved that the Mega Drive could just about keep up with the SNES in the graphics department. Their next release is expected to be another MD platform game**

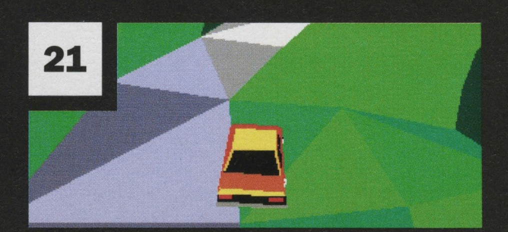
MD (Japan)

1 **Shining Force II** ***Sega*** **¥8800**
2 Street Fighter II *Capcom* ¥9800
3 Silpheed *Game Arts* ¥8800
4 Night Trap *Sega* ¥8800
5 LethalEnforcers (CD) *Konami* ¥9800
6 Puyo Puyo *Sega* ¥4800
7 3 x 3 Eyes (CD) *Sega* ¥8800
8 Aldark (CD) *Sega* ¥8800
9 Treasure Land Adventure *Sega* ¥8800
10 Might & Magic III *CSK* ¥6800

PowerSlide Ground Zero Texas **Star Wars** Escape From Monster Manor **Creature Shock** Primeval **Citadel** SoulStar: Malice Of The Myrkoids **Battlecorps** Skeleton Krew

Prescreen

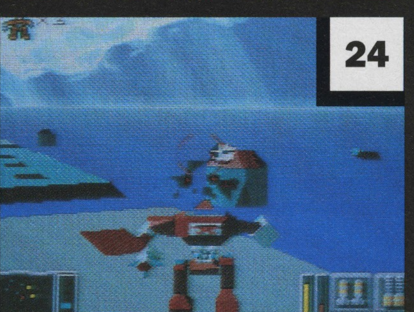
In-depth profiles are the order of the day in this month's Prescreen section. We've got all the details on top programming teams Core Design and Argonaut Software. Core are best known for their Sega affiliations (and the excellent *Thunderhawk*), and Argonaut for their ties with Nintendo (and the much-hyped Super FX chip). But it goes further than that. Both teams – oblivious to **Edge**'s warnings about the format – are working on hi-res rendered CD-ROM games. From Core, there's the best thing to happen to the Mega CD *ever*, the space adventure *Battlecorps*. And from Argonaut there's the PC and 3DO stunner, *Creature Shock*. **Edge** talks to the teams behind these important projects, sees the earliest demos, and does all the other journalist-type things everyone keeps telling us we do so well.
So here goes...



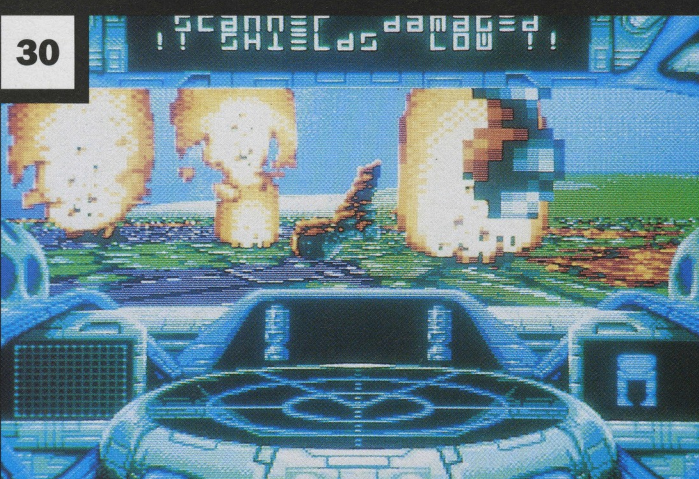


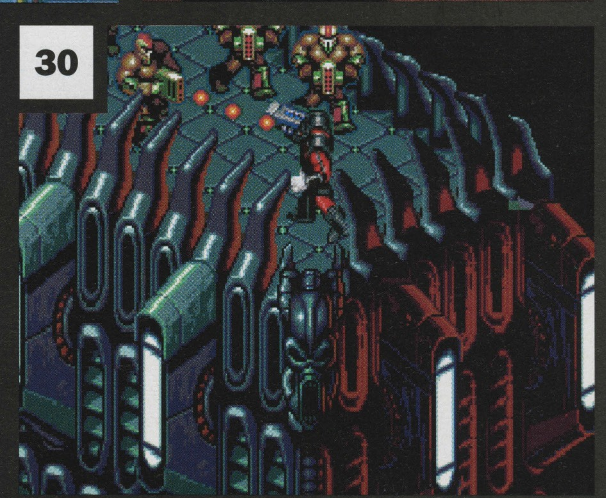
21 PowerSlide SNES
22 Ground Zero Texas M-CD
23 Star Wars ARCADE
23 Escape From Monster Manor 3DO
24 Creature Shock PC CD-ROM, 3DO
Primeval PC CD-ROM, 3DO
Citadel SNES
30 SoulStar M-CD
Battlecorps M-CD
Skeleton Krew MD, AMIGA







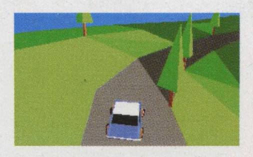


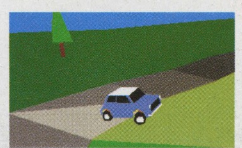


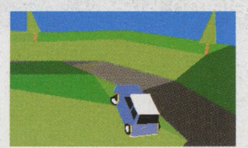
PowerSlide

Elite Systems are using Nintendo's Super FX chip for the first in their series of 3D simulations

Format: **Super NES (SFX)**
Publisher: **Elite**
Developer: **Motivetime**
Release date: **October '94**
Size: **4 Mbit**
Origin: **UK**







See... just goes to show that Mini drivers are dreadful. Given the freedom to drive anywhere, they will. *PowerSlide* is going to be a joyrider's dream

Elite Systems are busy developing what they consider to be one of the most realistic driving simulations you can play. Using Nintendo's Super FX chip, the game is polygon-based; however it's still in its early stages, so these screenshots are deceptively basic.

'At the moment all we have going is a polygon engine with the simulation,' explains **Trevor Williams**, development manager with Elite's software division, Motivetime. 'We haven't really got the visuals up and running, so there are no nice backdrops, no graphical spot effects and no instruments onscreen. It looks much better when it's all moving.'

Indeed, Elite have concentrated on duplicating the physics of a real car within the SFX cart. 'We did this together with one of country's leading specialists in the field – a guy who does simulations for Ford. It actually simulates how a real car works; it rolls on the suspension, you can slide the back end out going round corners, you can do handbrake turns and so on.'

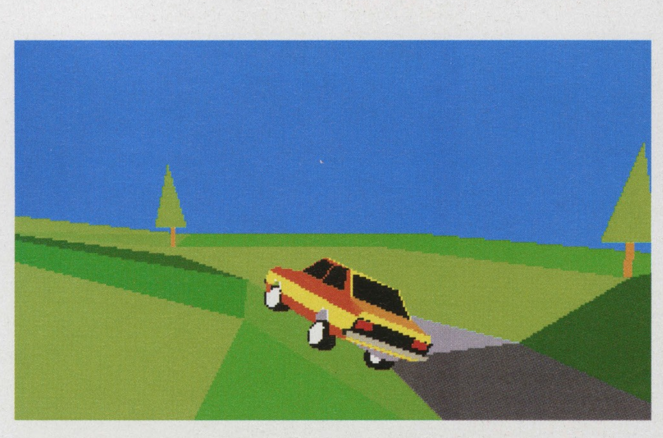
It takes more than clever maths to make a decent game, but Elite are intent on making it as playable as possible: 'It's based loosely on the World Rally Championship,' says Trevor. 'When we originally conceived the game it was going to be Formula I, but rallying is far more exciting. Then we were going to race a single car along stages against time, but that's fairly uninteresting. We wanted to have a twoplayer game, so we're building these rally stages into circuits that you can race around. You'll have two cars on there, and if it's head-to-head it'll be split screen.'

And with a 3D environment, the player has freedom to go where he likes, as Trevor attests: 'We've concentrated on making the game fully interactive, so you can drive your car anywhere over the landscape: you can drive off the track, you can drive through the trees – but your car won't last very long!'

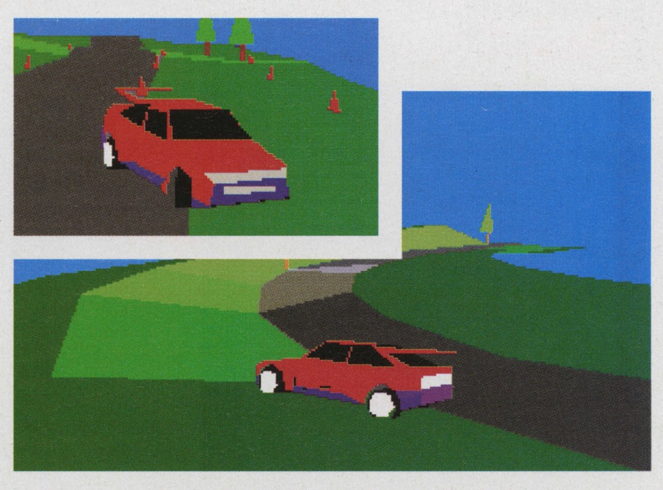
'We did this together with one of the country's leading specialists in the field – a guy who does simulations for Ford'

Credits

Programmer: Rick Frankish
Object creator: Dave Percival
Producer: Trevor Williams



Apart from an instrument panel, roadside graphics, spot effects, game mechanics and a twoplayer mode, *PowerSlide*'s completely finished



Elite have replicated the physical attributes of Ford's Sierra Cosworth, including sampling the exhaust noise on a rolling road

Ground Zero, Texas

Aliens have landed. It's up to you, and your Mega CD to defeat them. **Edge** reports



Switching among your four viewers (or 'Battlecams') is essential. This way you can search all the various locations around town

$3 million was spent on *Ground Zero* to ensure the film sequences were up to Hollywood standard...

Format: **Mega CD**
Publisher: **Sony Imagesoft**
Developer: **Digital Pictures**
Release date: **01/02/94**
Size: **1 CD**
Origin: **US**

Digital Pictures are once again venturing into the Sega CD market. Their last effort – *Sewer Shark* – was notorious for combining impressive digitised film footage with uninteresting and simplistic point and shoot gameplay.

Their latest game *Ground Zero, Texas* is structured in a similar way, but has a more cinematic look and feel about it. This should come as no real surprise, as $3 million was spent to ensure the filmed sequences were up to 'Hollywood' standard, or so says , Stan Olafsson, the president of the game's publishers – Sony Imagesoft.

Taking the role of an undercover agent, you're responsible for protecting an entire town from an increasingly dangerous alien invasion.

Although *Ground Zero, Texas* incorporates *Mad Dog McCree*-style gameplay, it does offer a few innovative twists to this tired theme.

Firstly, the player uses four surveillance cameras to monitor the action, and unlike most shooting games, the targets are shown on a random basis. The story also changes in response to your actions, so if for example you are unable to save a character from alien capture, then that character could return as an alien.

Whether this will be enough to lift this from being just another interactive shoot 'em up remains to be seen, but it seems unlikely that the game will ever recoup its huge production costs.



One of your four battle cameras, complete with gun attachment. You can view the camera to check for damage...

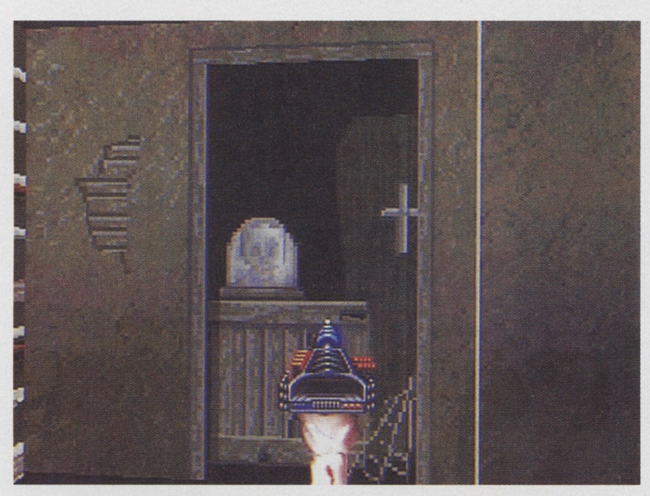


Look closely at the bottom right of the screen, the blue highlighted number indicates we're on camera 2. Another location, another alien



No sign of any aliens here, or that's what you're led to believe. Any moment now one of those people will suddenly spring into action

Escape From Monster Manor



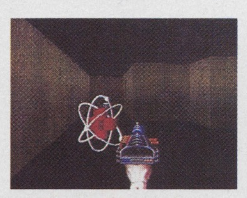
What lies beyond the doorway? Will you live to tell the tale? Turn down the lights, turn up the creepy CD music, and prepare to be scared

Format: **3DO**
Publisher: **Electronic Arts**
Developer: **The 3DO Company**
Release date: **Late December**
Size: **1 CD**
Origin: **US**

Without even the slightest murmur, Electronic Arts is set to release a firstperson, *Wolfenstein*-style shoot 'em up for Panasonic's 3DO machine. *Escape From Monster Manor.* Using realtime generated 3D, the player scrolls through haunted garden mazes, catacombs, a spooky graveyard and, of course, a monster-infested manor. Your task is to hunt for the lost pieces of a talisman. And without the talisman you won't be able to escape, funnily enough.

Of course, the game also lets you blow the hell out of anything that resembles the undead. Ghosts are handled quite well – the 3DO's transparency hardware being put to good use in this respect.

Apparently the game was co-developed by The 3DO Company's in-house development guys, but it seems EA are more willing to push things like *John Madden* and *Twisted* at this time.





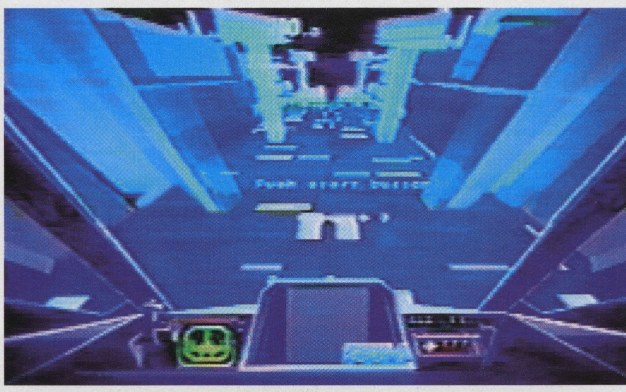
The game includes power-ups such as extra health (top)
See-through ghosts are easily managed by 3DO's custom hardware (above)

Star Wars

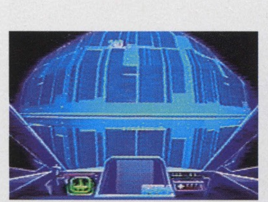
Format: **Arcade**
Manufacturer: **Sega**
Developer: **In-house**
Release date: **Early '94**
Size: **N/A**
Origin: **Japan**

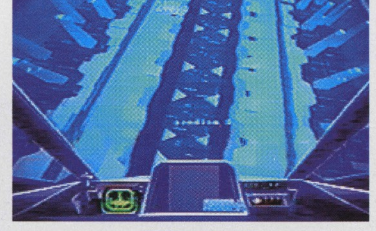
Your £1,000 PC will just about get you the best Star Wars game on any system – *X-Wing*. For around £1,500, you'll be able to indulge in the digitised excesses of *Rebel Assault* – a stunning but ultimately disappointing game on CD-ROM. For about £10,000, though, you'll soon – well, in about three months to be precise – be able to pick up Sega's all-singing and dancing *Star Wars* arcade game, using the Model 1 graphics board used in *Virtua Racing*.

When **Edge** saw the game back in August in Japan, jaws dropped – despite the fact that it was only 20% complete. Compared to the Model 2 powered *Daytona Racing*, it naturally lacks detailed texture-mapping, but if only for gut-wrenching speed, this looks like being one of the best tributes to the film ever. Let's hope a Saturn conversion isn't too far behind. We can but dream.



Namco's *Star Blade* was impressive but this is something else. Sega's *Star Wars* allows for much more freedom of movement





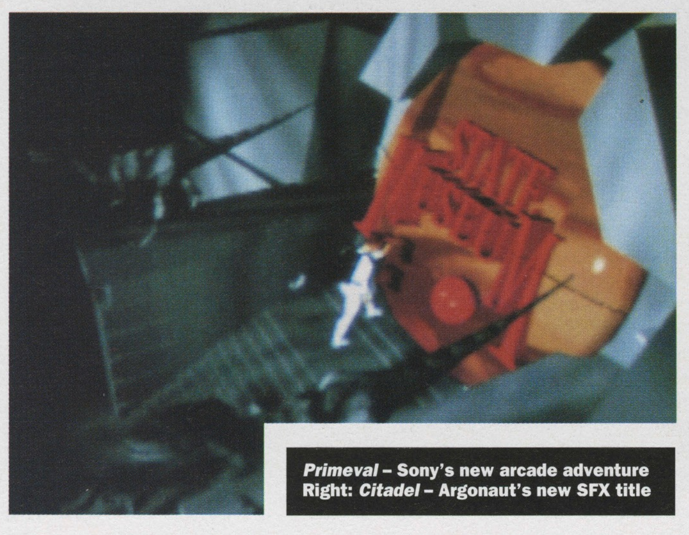
Zooming into the Death Star is just as smooth as in the film (left)
And here's where your stomach ends up in your seat (right)

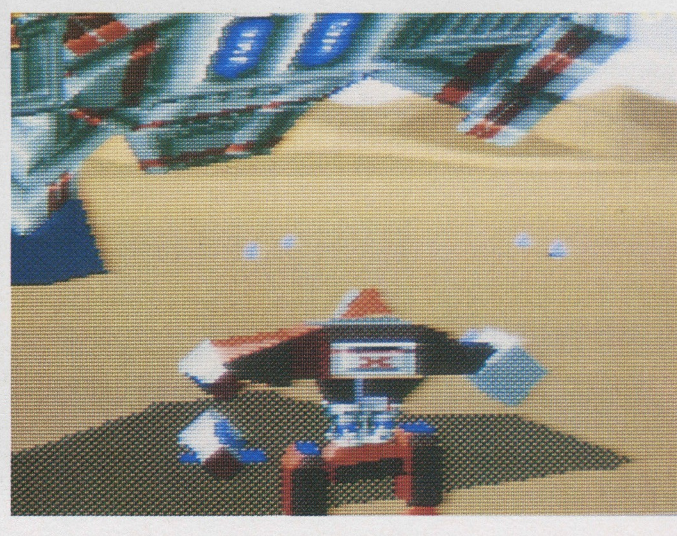
Creature Shock in stunning 24bit colour. Virgin's game is expected mid-late '94





Above and left: More stunning rendered visuals from *Creature Shock*

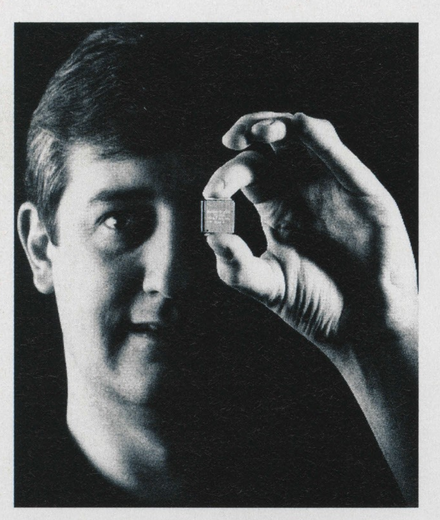




Primeval – Sony's new arcade adventure
Right: *Citadel* – Argonaut's new SFX title

Argonaut Software

Producing 3DO and PC CD-ROM games for Sony and Virgin, and Super FX games for American third parties – that's the Argonaut Software of 1994. And all this while still in bed with Nintendo. **Edge** investigates...



The Super FX chip as modelled by one of its creators, Carl Graham. Small is beautiful

Since establishing Argonaut Software at the tender age of 16, Jez San has landed on his feet time and time again – with his company now one of the most prominent in the business.

But apart from *Starglider* and its technically stunning sequel, it's difficult to find cast-iron logic to support the company's spectacular success. Some of the games that followed were poor, and even *Starfox*'s qualities can be traced back to the talents of skillful Japanese game designers.

In fact, the harder you look, the more you begin to wonder how they ever forged such intimate links with Nintendo. And where they'd be now if it hadn't happened.

Anyone expecting flashy offices and fast cars, would surely be massively disappointed visiting Argonaut's offices. Located in North London, the battered and slightly cramped building is about as unglamorous as it can get in this business – it's a small wonder that some of their programmers jumped at the chance of working in Japan.

Walking around the offices, however,

Continued next page



Musician Gwynn Jones draws inspiration from those mega talents Take That (see poster)

Continued

things start to improve. There's a cheery enthusiasm for the multitude of projects being juggled, and reassuringly, there's some heavyweight and very long-awaited games hidden away in some dark corners. Naturally **Edge** was only too keen to have a nosy around.

At present, Argonaut's Japanese connection means that it gets to shape the development of a line-up of Super FX games, and if rumours are to be believed, also to take on the challenge of developing Nintendo's next generation games machine using Silicon Graphics hardware. But there are some things Argonaut just doesn't like to talk about. And Nintendo's Super FX games are similarly cloaked in secrecy.

As reported in **Edge** three, *Starfox II* is currently being coded in-house in London, while *FX Trax* is being handled by two temporary Argonaut defectors, under the auspices of the game god himself, Shigeru Miyamoto, in Nintendo's Kyoto headquarters in Japan. That's not to say that Super FX games weren't on view at Argonaut, though. In fact *FX Trax* looked rather like a polygonized version of *Buggy Boy*. The game moved smoothly and even incorporated texture-mapped roadside objects, handled by the SFX II.

And given that the first Super FX game, *Starfox*, made such an impact, much is expected of the sequel housing the new improved Super FX II chip. Running approximately 30% faster than the original Mario chip (the real name for the Super FX), the SFX II delivers about the same power as a 386 PC running at around 20MHz. While still widely acclaimed, *Starfox* was only ever criticised for its simplistic shooting nature and the fact that you were never given any real freedom of movement.

'Level one of *Creature Shock* has already bitten a hefty 200Mb chunk out of a CD-ROM'

Mark Johnston, programmer

As already reported, the Super FX II chip in *Starfox II* allows for two



Marcus Punter, graphic artist on *Creature Shock*, with (deep breath) Product Support Group Manager (Software), Ian Crowther

simultaneous play windows, permitting head-to-head battles and more depth of gameplay. And the graphics are currently looking on a par with the original's – but with a bigger screen display and even a mode where both players can fly in a single fullscreen window.

But, while **Edge** was granted a look at both *Starfox II* and *FX Trax*, Argonaut were far more willing to discuss their first thirdparty Super FX release, *Citadel*, being coded for US publishers Electrobrain.

3D graphics specialist **Michael Powell** (*SubWar 2050*, *Powerdrome*) heads the *Citadel* design team and is confident that this will be different from *Starfox* in many ways.

'Unlike *Starfox*, this is a totally free roaming game. You have complete freedom to go wherever you want. The 3D system



Like *Starfox*, *Citadel* (left) places 3D polygon graphics over bitmapped backdrops. The action allows for complete freedom of movement, too, unlike Nintendo's classic. Sometimes your robot will zoom into the screen (above) – the SFX II handles it easily

has also been improved, and we now have added texture-mapping on some of the objects. The main character in *Citadel*, for example, is far more detailed than Fox McCloud's *Starfox* fighter, comprising around 90 polygons.'

In *Citadel* you have control of a huge robot character that can transform into different crafts like airborne jets and land-speeders, each using varying amounts of fuel. Unlike *Starfox*, there's a fair degree of strategy to the gameplay incorporated in the three training missions and six different worlds. It's a far bigger game, and surprisingly only a 4 Mbit cartridge too.

However, first impressions might lead you to believe that this is the Transformers licence that Argonaut are rumoured to be working on. Not so. Takara's game, an officially licensed Transformers product, is also being coded by Argonaut in London, but it's a different game from *Citadel*, even if it does look very similar at this stage.

Citadel is currently 1½ years down the line, with around another four months of work still to go into the project, and while it looks basic in terms of graphics, Argonaut's 3DO and PC development is guarded with almost as much secrecy as their Super FX work. Two projects are currently in the pipeline: *Creature Shock*, an action-based sci-fi shoot 'em up for Virgin; and *Primeval*, a firstperson action game, currently at a very early stage.



You'd think that sitting at monitors all day would breed a distaste for videogames. Not so. The Sega Dome, in the Japanese Yohan Shopping Centre, is one of the boys' more regular hang-outs

You might think it surprising to hear that Argonaut aren't the greatest fans of 3DO. 'It's good at texture-mapping, but it's not as fast as a DX2 PC for calculating polygons', claims Argonaut's 3DO programmer **Mark Johnston**.

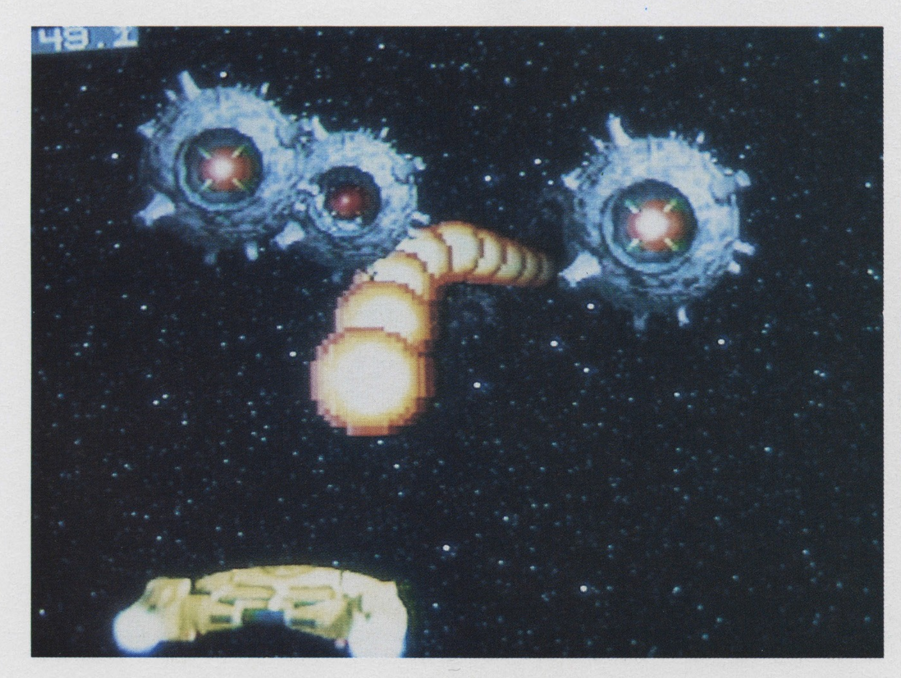
'The ARM chip (CPU) is slowed down by the lack of a disk cache and the machine's pretty hopeless at creating some of the more traditional special effects players are used to,' he adds. 'Because it's only got a single screen like a PC, effects like multi-layered parallax scrolling are virtually impossible to get running in a single frame. In this kind of game the SNES wipes the floor with it, which is a bit sad when you consider the price difference.'

Well, yes it is, but for 3D sprite-expansion – the machine's forte – 3DO's no slacker. And *Creature Shock* has lots of that, reverting between pre-rendered 3D walking bits and 3D space shoot outs throughout its six levels.

In the shoot 'em up section the action's viewed from behind the player's ship, like in *Starfox*. The player flies into the screen in a similar style to the Sega coin-op, *Galaxy Force II*, with real-time rendered rotating sprites zooming past you before you meet an end of level boss.

It sounds hackneyed, and it is, but take it from us, the speed and smoothness at which it's all executed is impressive, with everything expanding without any of the blockiness usually seen; and that's with some of the sprites almost filling the screen. 'I think the best aspect of the 3DO

Continued next page





While Argonaut moan about the 3DO hardware there's little evidence onscreen of the shortfalls in *Creature Shock*'s space shoot 'em up sections – everything whizzes into the screen at an alarmingly smooth rate. And those stretching squid (above) are great



The *Primeval* team from left to right: Junior Walker, Neil Gregory and John Woolf. Only another year's work to go on this one

Continued

is probably its operating system, which is very easy to use,' Mark reckons, 'but having all the development based around Apple Macs makes it a very expensive machine to work on.'

The other half of *Creature Shock* takes place on foot as your space-suited character negotiates *3D Studio*-rendered tunnels in true CD-ROM-o-Vision.

You know the form by now – select your direction and a piece of video plays, and then it stops and you do it again. It's the same principle as seen in *The 7th Guest*, although naturally, Argonaut reckon theirs is a far more sophisticated technique. 'It's a bit more interactive because the video clips are much shorter, quicker to activate, and there are far, far more of them.'

'We're trying to use subtle things to give the gameplay in *Creature Shock* more interactivity'

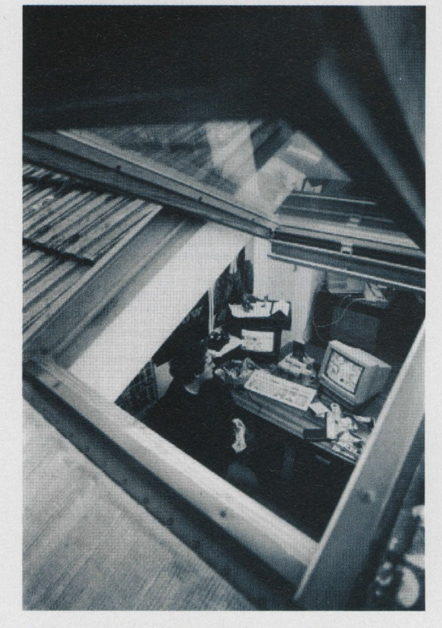
Mark Johnston, programmer

Once you reach the rooms, there are either large static background screens which scroll around as overlayered rendered sprites with hundreds of frames of animation move towards you in an *Operation Wolf*-style shoot 'em up.

There are also large rendered fight sequences, where you have a fully rendered animated monster pulled off the CD revealing its sprite-masked weak spots as it moves. According to Mark, 'We're also trying to integrate subtle things that'll give the gameplay more interactivity, such as small creatures that attack you if you stand in certain places.'

Original it ain't, impressive it most definitely is. And fun? Well, only time will tell – at least six more months in this case – but **Edge** certainly hasn't been that impressed by previous attempts at this kind of thing.

'*Creature Shock* started out way back when CD-ROM drives were a just a possibility for the PC,' Ian claims. 'We're going for a straight arcade action game because we couldn't build in a detailed level of interaction into a pre-rendered graphics system like this.' But CD-ROM-o-Vision is still good for one thing – it sure makes use of all that disc space. 'Currently, level one in the game has already bitten a hefty 200Mb chunk out of a CD-ROM, so we're a little over budget so far in terms of disc space.'

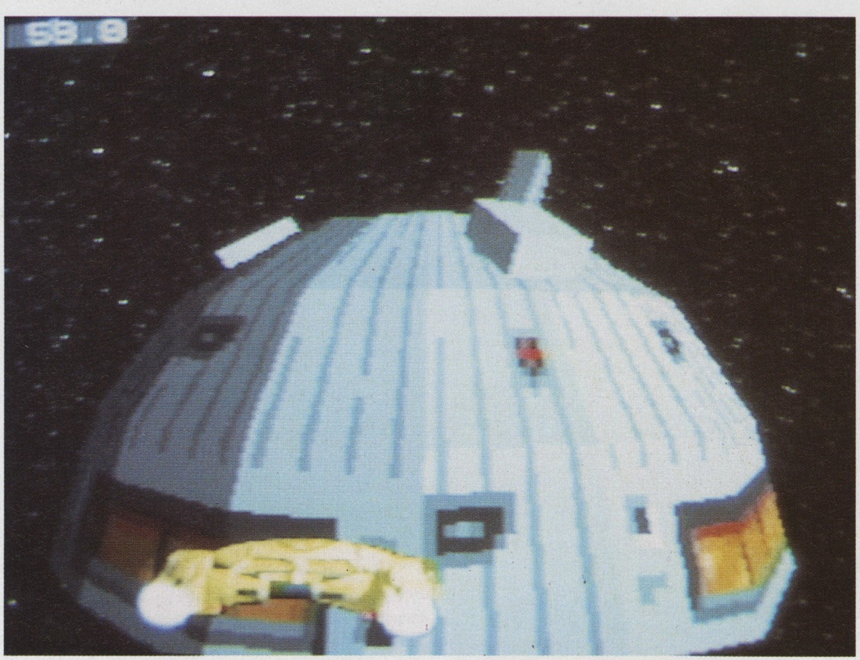


Undeterred, Edge tries a novel approach at getting screenshots. Now, zoom in...

So much for yesterday's dreams of CD offering limitless space.

Besides the 3DO and PC CD-ROM versions there are possibilities of FM Towns, CD-i 2 and just about any CD console versions of *Creature Shock* appearing. It's the kind of game that'll transfer fairly easily across, providing the machine can handle the real time 3D space sequences and flow of data for the video.

'The 150K per second drives on the PC are irritatingly slow,' claims Ian, 'it really restricts the colour and detail we can achieve on the PC.' And on 3DO? 'Well,



More from the space sections in *Creature Shock*, in this case, level two. The gameplay alternates every level between firstperson perspective walking bits (right) and these 3D scenes



Boss creatures are rendered completely and use masked sprites for collision detection

there'll certainly be better colour resolution, but it won't necessarily be using more colours.' And the results **Edge** saw testified to that – the 3DO FMV scenes looked less fuzzy than the same scenes running on the PC.

Primeval, the other 3DO and PC CD-ROM project, is a similar concept, currently about a year away, with lots of *3D Studio*-rendered graphics and gameplay that's cut of similar cloth.

At first there were also lots of rendered dinosaurs in the game until the publisher, Sony, decided to have them ditched. 'It's true,' recalls Ian Crowther, 'Sony had obviously been mightily impressed with the dinos in *Jurassic Park* and was asking for a big lovely CD-ROM dinosaurs game. We warned them that it would take about 1½ years to fully complete something like that, by which time dinosaur credibility might have waned a bit. But they kept jumping up and down shouting 'Dinosaurs! Dinosaurs! We want dinosaurs!' and we plugged on with them.

'Recently however, Sony decided that dinosaurs were old hat so we had to kill the lot of them. Consequently, we're still rebuilding the plot in this one. It's a bit like building a house and then having to pull it down and build a hotel.'

Graphic artist **Junior Walker** explains the basis of the new plot: 'We've since been working on an alternative scenario – an alien who crash-lands his spacecraft on earth and has to find a way of getting some fuel to escape. Your character – the alien – is the good guy. He's a conservationist who tries to save things, particularly endangered species. This only leaves the human race as the bad guys, and the gameplay might even involve you tracking down a deadly criminal while being hunted down yourself by the police robots.' The style of play will take a similar form to the walking sections in *Creature Shock*, although with more over-layered sprites, and different perspectives.



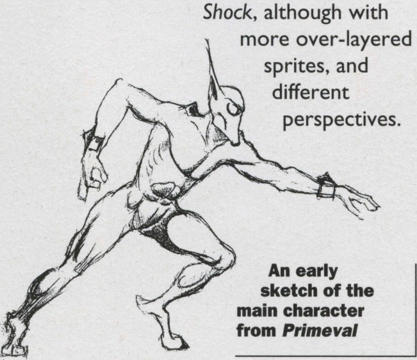
Besides software, Argonaut are one of the few companies heavily involved with chip design for certain large companies in the games industry. The Super FX chip is only the surface...

'We're going for an entirely real time interactive game with *Primeval*,' reckons Ian, 'there's no waiting for the CD to get to the end of the sequence, and when we do play a sequence, your real-time character is overlayed on top.'

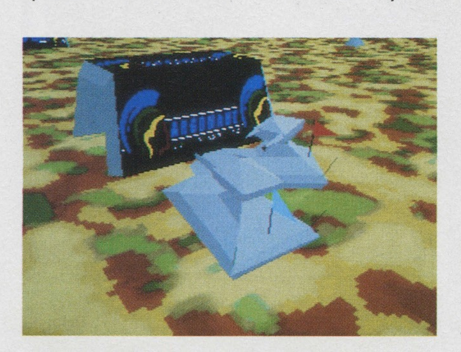
It's ironic that such advances in graphics technology make traditionally established gameplay elements – such as direct character control – seem so alluring.

Why should players accept a step back in gameplay simply to accommodate better graphics? With the Super FX, there's obviously little to be concerned about – the very nature of the chip determines that games can be interactive.

But let's hope Argonaut don't get too blinded by CD-ROM technology to forget about the player with their other new games...



An early sketch of the main character from *Primeval*





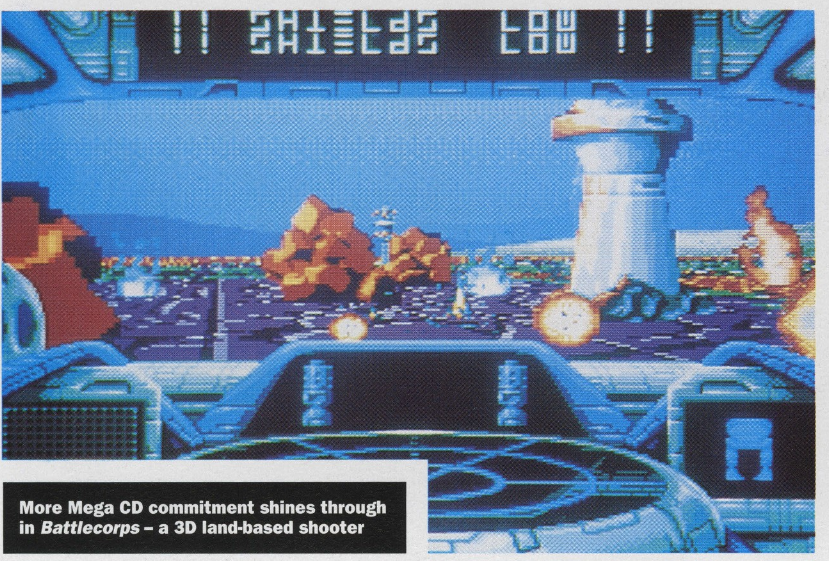


When not working they're playing – in this case, on their own networked 3D tank game created for purely recreational purposes (left). An early intro scene from *Primeval* pans around (right)

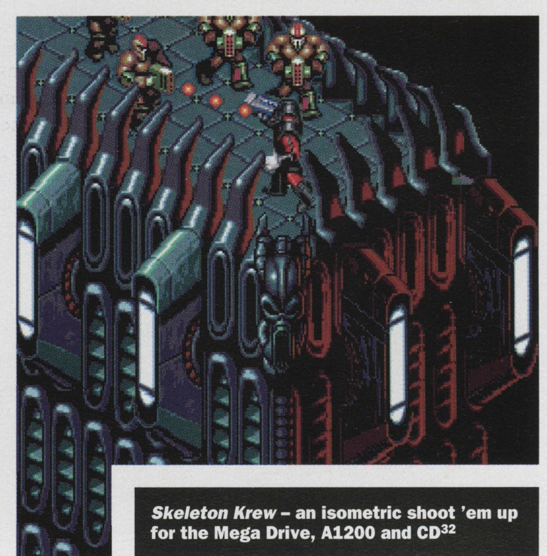
Credits

PSG Software Manager: Ian Crowther
Programmer (CS): Mark Johnston
Programmer (CS): Lewis Gordon
Graphics (CS): Scott Butler
Graphics (CS): Marcus Punter
Graphics (CS): Peter Day
Programmer (Ctl): Michael Powell
Animation player (CS): John Woolf
Designer (Ctl): Nic Cusworth
Graphics (Ctl): Alistair McNally
Music (Ctl): Justin Sharvona
Programmer (Prvl): John Woolf
Graphics (Prvl): Junior Walker
Graphics (Prvl): Adam Barton

Rather than hack out a *Thunderhawk 2* for the Mega CD, Core are producing *SoulStar*



More Mega CD commitment shines through in *Battlecorps* – a 3D land-based shooter



Skeleton Krew – an isometric shoot 'em up for the Mega Drive, A1200 and CD^{32}

Core Design

Thunderhawk proved the Mega CD could do more than simply spin a disc. **Edge** looks at the next wave of titles from its creators at Core

No-one could dispute the ambition of UK developers Core Design. Certainly not after seeing *Thunderhawk* in action. The ill-conceived bundle of technology that amounts to the Mega CD was, and still is, desperately short of decent software, but Core tapped some potential and now they're sticking with it.

While this will surely help Sega offload more systems onto the undeserving public, it's also a fair indication of Core's







***SoulStar*'s first mission involves breaching the Mykoid (bad guys) Warpship's defences and then flying right into the ship itself. From here the game branches out into three distinct routes, which when combined, deliver 40 different missions – 17 interior sections and 23 exterior sections**

commitment to the Japanese giant. Their Saturn development is only a few short months away, in fact.

But Sega's future hardware isn't something that Core's managing director **Jeremy Smith** readily talks about. After all, he's got a rather menacing non-disclosure contract hanging over his head, and a vested interest in the hardware onsale today. 'We see the Mega CD as being solid for us for about the next 18 months', he claims.

Core's second and third Mega CD titles, *SoulStar* and *Battlecorps*, both use the same custom graphics technology that was developed for *Thunderhawk*.

Mark Avory, Thunderhawk's original programmer, is the man behind the *SoulStar* project. So *Thunderhawk* fans will instantly feel at home here. The game plays like a progressive shoot 'em up, and leans heavily towards Japanese anime-style mecha games. And the 3D scaling is faster and far more impressive than *Thunderhawk*'s too. Core have really got the Mega CD's hardware cooking here.

Project manager **Guy Miller** describes *SoulStar*: 'You enter a gigantic warp ship in the *SoulStar* system and can then choose which part you want to go to. There are three types of Aggressor craft to control – a Strike Craft for linear shooting sequences, a Turbo-copter for the 3D flying sequences, and an Attack Tank for the onground 3D sequences.'

But the main difference is that the craft morphs onscreen into the different rendered forms. The Turbo-copter sections are the most impressive, with some great detail on the landscapes and gameplay that almost feels like a tilted version of *Gunhed*.

Strangely enough, some great CD soundtracks by **Nathan McCree** have been implemented even at this early stage. 'Music adds a lot. It helps the development of the game along no end, and makes things feel like they're coming together even when they're not really', Guy says.

***Battlecorps* is** the second Mega CD title in development at Core. It's a futuristic Battletech-style exploration shoot 'em up. The *Thunderhawk*-style scaling rendered floor is also found in this game, but this time **Jonathan Hilliard** – not Mark Avory – is behind the project.

Currently about three months into development, *Battlecorps* takes place over six separate planets. Rival mining corporations are fighting over a planet's resources and you're trying to reclaim the mining installations. You play a member of the Battlecorps – an elite group of gun jocks who are contracted by the Interplanetary Mining Corp to take out Biomech Corp's installations. All your enemies are based on insects and animals, and are modelled as 3D sprites.

One claimed improvement over *Thunderhawk*'s graphic engine concerns the number of colours onscreen. Whereas *Thunderhawk* used a paltry 16 colours for the whole window, *Battlecorps* manages to use the machine's 64 colour capability, compensating for this by reducing the size of the window display.

Edge asked the game's programmer, Jonathan Hilliard, how the Mega CD is being used in *Battlecorps*. 'The terrain scaling – as with *Thunderhawk* – is achieved by simply writing ten lines of code to the graphics sizing chip. It's effectively a huge sprite that scales and rotates beneath you.' Core have also used full-motion video sequences to link all the missions.

And it's hard not to be impressed with

Continued next page



Photograph: **Adrian Ford**

Mark Avory, programmer of *Thunderhawk* has little time for most CD games. 'There's no nice way of saying it. They're often crap'

the results – the preliminary video for both *Battlecorps* and *SoulStar* is about as good as the Mega CD can expect to see, with or without CinePak software technology.

But does this mean Core are jumping onto the FMV game bandwagon? According to Jeremy Smith: 'We've got the best FMV player on the Mega CD to date – I defy anyone to do it better – but we wouldn't be silly enough to base a game around it.

'When an intro takes up more time than the game, that's when you need to stop and think about whether you've got your priorities right. The Mega CD wasn't designed to be used in that way anyway. It isn't good enough to rely on FMV.'

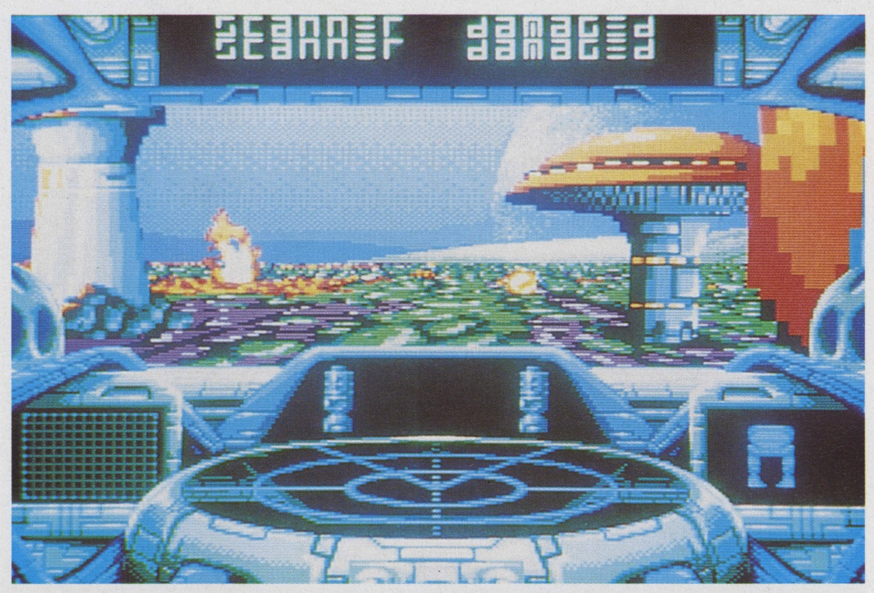
But the Mega CD isn't the be all and end all for Core. Mega Drive, A1200 and CD32 owners can look forward to *Skeleton Krew*, Core's attempt at an isometric scrolling shoot 'em up. It's a slick, simultaneous twoplayer game which moves exceptionally smoothly, and it plays – in its initial form at least – like a sophisticated version of *Planet Of The Robot Monsters*.

'We thought it would be interesting to do an isometric shoot 'em up with two players,' Guy says. And naturally Core have some clever stuff going here as well.

Guy explains, 'The main sprites are split at the waist so they can turn on their hips and fire independently of the direction they're moving in. And there are seven levels, each split into several zones'.

With so much action onscreen, Mega Drive programmer **Chris Long** reckons that the biggest technical challenge is keeping the frame rate up and stopping too many sprites appearing on the same line.

As with Core's other games, *Skeleton Krew* will get around six to seven months' development in time for a May '94 release, but that's after the whole storyboard and script has been fully worked out beforehand. 'It's an organic process,' according to Guy. 'Plans constantly change to accommodate gameplay ideas.'



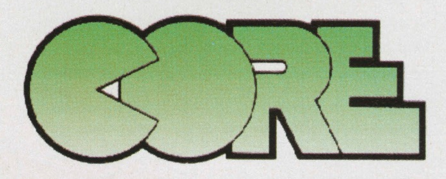




***Battlecorps* – a 3D tactical shoot 'em up based around a futuristic war between two rival mining colonies. Taking control of a team of three IMC gun jocks, the action is fast and complex**

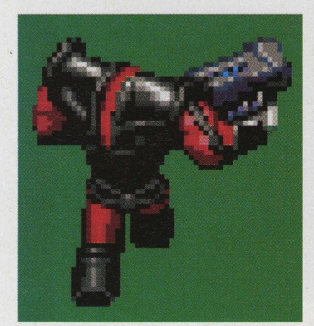
So what else can we expect to see from Core? Apart from the long-awaited Mega CD version of *Heimdall*, that is.

According to Core MD Jeremy Smith, 'You won't see another platform game from us for a good while, that's for sure. The market was saturated a year ago, and now it's just got totally ridiculous. But we have got *Heimdall 2* for the Amiga, and we've just started working on a Mega CD game in the style of *Mario Kart* called *Chuck Rally*. It would be so dead simple to do a *Thunderhawk 2*, but at the moment we're trying to keep out of that same old predictable routine. The way I see it, we'll continue to push for more original concepts, and hopefully stay ahead of the market that way.'



Credits

Product manager: Guy Miller
Programmer (SS): Mark Avory
Graphics (SS): Jason Gee
Music (SS): Nathan McCree
Programmer (BC): Jonathan Hilliard
Graphics (BC): Roberto Cirillo
Music (BC): Martin Iveson
Graphics (SK): James Ryman
Programmer (SK): Jason Gosling
Programmer (SK): Chris Long
Graphics (SK): Heather Gibson



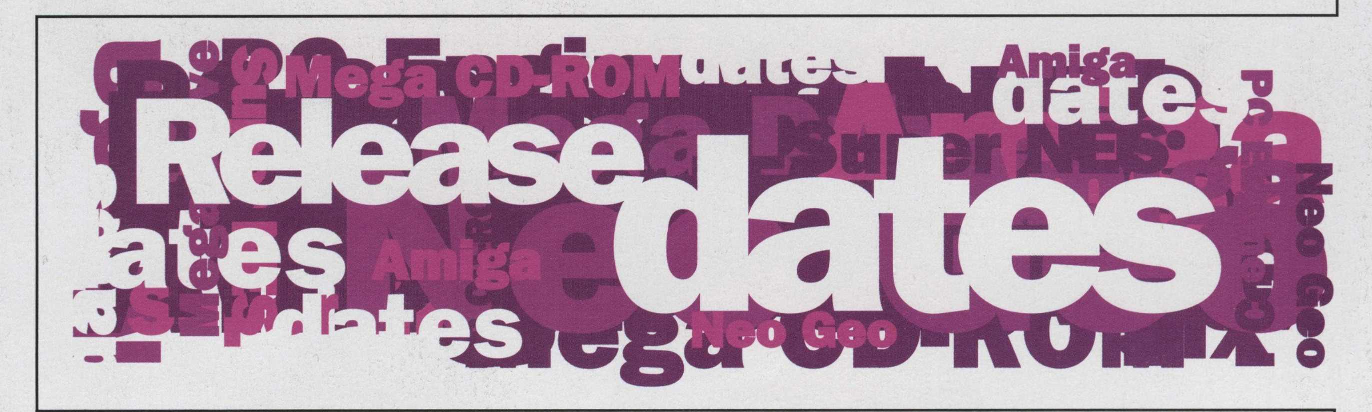


***Skeleton Krew* is Core's lone twoplayer Mega Drive title, but it's by no means less impressive than the Mega CD stuff. Robot sprites turn and fire independently of the direction they're moving**



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Wolfenstein 3D **Shadowcaster** Battlechess **Super Darius II** Steel Machine **Dark Stone** Club Drive **Tiny Toon Adventures** Power Monger **Young Merlin** Wolf Pack **Burnin' Rubber** Tempest 2000 **Castlevania** Rise Of The Robots **Mr Nutz** Virtua Racing **Bloodnet** NHL Hockey '94...



Release dates

Edge's unique multiformat release schedule, covering the entire world of videogaming



***Wolfenstein 3D*, ID Software's violent and bloodthirsty shareware shoot 'em up from the PC. On the SNES expect to see green blood**



The demo of *Virtua Racing* that Edge saw in Japan back in August was hugely impressive. Next month, expect to see a Prescreen...

Date	Game Title	Type	Publisher	Country
Super NES				
07 January	Rainbow Bell Adventure	platform	Konami	Japan
22 January	Super Tetris 2	puzzle	BPS	Japan
29 January	Brain Lord	adventure	Enix	Japan
- January	Rockman Soccer	adventure	Virgin	Japan
- February	Lethal Enforcers	light gun	Konami	Japan
- February	FX Trax	racing	Nintendo	Japan
- February	Joe & Mac 3	adventure	Virgin	Japan
- January	Rockman Soccer	adventure	Virgin	Japan
- February	Astro Go! Go!	racing	Meldac	Japan
- February	Muhammad Ali	sports	Virgin	UK
- February	Young Merlin	adventure	Virgin	UK
- February	Rock 'n Roll Racing	driving	Interplay	UK
- February	**Wolfenstein 3D**	**shooter**	**Imagineer**	**Japan**
- February	Robocop V Terminator	action	Interplay	UK
- January	Terminator 2	light gun	Acclaim	UK
- February	Clay Mates	platform	Interplay	UK
- March	Clay Fighters	combat	Interplay	UK
- March	Chaos Engine	action	Microprose	UK
- March	Final Fantasy VI	RPG	Square Soft	UK
- March	Gamba League 94	sports	Konami	Japan
Mega Drive/Mega CD				
14 January	NHL Hockey '94	sports	Electronic Arts	UK
14 January	Power Monger	strategy	Electronic Arts	UK
- January	Gunship	simulation	US Gold	UK
- February	Lost Vikings	platform	Virgin	UK
- February	Dune 2	adventure	Virgin	UK
- February	F1 Circus CD	racing	Nihon Bussan	Japan
18 February	Power Monger (CD)	strategy	Electronic Arts	UK
- March	**Virtua Racing**	**racing**	**Sega**	**Japan**
- February	Vampire Killer	platform	Konami	Japan
- March	AX101 (CD)	shooter	Sega	Japan
- March	NBA 94	sports	Electronic Arts	UK
- March	Mutant League Hockey	sports	Electronic Arts	UK
- March	PGA Tour Golf	sports	Electronic Arts	UK
- March	Tin Head	platform	Microprose	UK
- March	Bubba 'n' Stix (CD)	action	Core Design	UK
25 March	Sprocket & Plug	platform	Electronic Arts	UK
- April	Soul-Star	shooter	Core Design	UK
- April	Normy	platform	Electronic Arts	UK
- April	Castlevania	platform	Konami	UK

NOTE: Publisher's release schedules are tentative, ie unreliable, and often wildly inaccurate - sorry

PC Engine/Super CD-ROM^2 (H=HuCard)

Date	Game Title	Type	Publisher	Country
22 December	Ys IV	RPG	HudsonSoft	Japan
23 December	Super Darius II	shooter	NEC Avenue	Japan
- January	PC Cocoroon	platform	AWave	Japan
- Undecided	Marble Madness (H)	puzzle	Tengen	Japan
- Undecided	Super Fantasy Zone	shooter	NEC Avenue	Japan
- Undecided	Strider (CD-ROM^2)	platform	NEC Avenue	Japan
- Undecided	Galaxy Force II	shooter	NEC Avenue	Japan
- Undecided	Mega Twins	action	NEC Avenue	Japan
- Undecided	Hellfire (H)	shooter	NEC Avenue	Japan
- Undecided	N Warriors (CD-ROM^2)	action	NEC Avenue	Japan
- Undecided	Gods	action	NEC Avenue	Japan
- January	Emerald Dragon	RPG	NEC Avenue	Japan

Neo Geo

Date	Game Title	Type	Publisher	Country
- January	Art Of Fighting 2	combat	SNK	UK/Jap
- Undecided	Magician Lord 2	action	Alpha	UK/Jap
- Undecided	Reactor	combat	SNK	UK/Jap
- Undecided	Samurai Shodown 2	combat	SNK	UK/Jap

PC

Date	Game Title	Type	Publisher	Country
- January	Burnin' Rubber	racing	Ocean	UK
- January	Pacific Strike	simulation	Electronic Arts	UK
- January	Wolf Pack (CD)	action	US Gold	UK
- January	Armoured Fist	action	US Gold	UK
- January	The Dig	strategy	US Gold	UK
- January	Tie Fighter	action	US Gold	UK
- January	Evolution: Lost In Time	adventure	US Gold	UK
- January	Raiden	shooter	US Gold	UK
- January	Al-Quadim	action	US Gold	UK
- January	Starlord	strategy	Microprose	UK
- January	Star Trek 25th (CD)	adventure	Interplay	UK
- January	Bloodnet (CD)	action	Microprose	UK
- January	Ten Year Anniversary	compilation	Interplay	UK
- February	Dragonsphere (CD)	adventure	Microprose	UK
- February	UFO	simulation	Microprose	UK
- February	Ultima 8	adventure	Electronic Arts	UK
14 February	Victory At Sea	strategy	Electronic Arts	UK
14 February	Harpoon 2	action	Electronic Arts	UK
18 February	Privateer	action	Electronic Arts	UK
11 March	Syndicate	action	Electronic Arts	UK
15 March	Interactive Movie	simulation	Electronic Arts	UK
25 March	Seawolf	simulation	Electronic Arts	UK
- March	Werewolf	simulation	Virgin	UK
- March	Cannon Fodder	action	Virgin	UK
- April	Inferno	action	Ocean	UK
- April	Super League Manager	sports	Ocean	IK
15 April	Forgotten Castle	adventure	Electronic Arts	UK

Amiga

Date	Game Title	Type	Publisher	Country
- January	Mr Nutz (A1200)	action	Ocean	UK
- January	TFX (CD^{32})	simulation	Ocean	UK
- January	Dark Stone	adventure	Core Design	UK
- January	Universe	adventure	Core Design	UK
- January	Heimdall 2	action	Core Design	UK
- February	Gunship 2000 (CD^{32})	simulation	Microprose	UK
- February	Rise Of The Robots	combat	Mirage	UK
- February	Thunderhawk (CD^{32})	action	Core Design	UK
- February	Beneath A Steel Sky	adventure	Virgin	UK
- February	Mr Nutz (A600)	action	Ocean	UK
- February	Super League Manager	sports	Ocean	UK
- February	Universe	strategy	Core Design	UK
- February	UFO	strategy	Microprose	UK
- March	TFX	simulation	Ocean	UK

Amiga

Date	Game Title	Type	Publisher	Country
- March	Starlord	strategy	Microprose	UK
- March	Impossible Mission	platform	Microprose	UK
- March	Lost Vikings (CD^{32})	platform	Interplay	UK
- March	WWF (CD^{32})	combat	Acclaim	UK
- March	Mortal Kombat (CD^{32})	combat	Acclaim	UK
- March	James Pond 3	platform	Millenium	UK
- March	Elf Mania (CD^{32})	combat	Renegade	UK
- March	Theme Park (CD^{32})	strategy	Electronic Arts	UK
- April	Inferno (CD^{32})	adventure	Ocean	UK -

CD-i (DV=Digital Video, DVG=Digital Video Games)

Date	Game Title	Type	Publisher	Country
- January	Megamaze	puzzle	Philips	UK
- January	Steel Machine	shooter	Philips	UK
- January	Pulse	music	Philips	UK
- January	Time Life Astrology	factual	Philips	UK
- Feb/March	Striker	sport	Philips	UK
- Feb/March	Earth Command	simulation	Philips	UK
- Feb/March	Phantom Express	educational	Philips	UK
- Feb/March	Asterix	educational	Philips	UK
- Feb/March	Surf City	educational	Philips	UK
- Feb/March	Dimo's Quest	educational	Philips	UK
- Spring '94	Microcosm - DVG	shooter	Philips	UK
- Spring '94	The 7th Guest - DVG	puzzle	Philips	UK
- Spring '94	Caesar's Boxing - DVG	sport	Philips	UK
- Spring '94	Ghost - DV	film	Philips	UK
- Spring '94	Indecent Proposal - DV	film	Philips	UK
- Spring '94	Beverly Hills Cop - DV	film	Philips	UK
- Spring '94	Star Trek 1 - DV	film	Philips	UK
- Spring '94	INXS - DV	music	Philips	UK
- Spring '94	Lionel Ritchie - DV	music	Philips	UK
- Spring '94	Bob Marley - DV	music	Philips	UK

3DO

Date	Game Title	Type	Publisher	Country
- January	Shadowcaster	adventure	Origin	US
- February	Out Of This World	action	Interplay	US
- February	Battle Chess	simulation	Interplay	US

Jaguar

Date	Game Title	Type	Publisher	Country
- January	Club Drive	driving	Atari	UK
- January	Tiny Toon Adventures	platform	Atari	UK
- February	Tempest 2000	shooter	Atari	UK
- February	Checkered Flag 2	racing	Atari	UK
- February	Alien Vs Predator	sports	Atari	UK
- April	World Cup Kick Off	sports	Anco	UK
- April	Casino Royal	simulation	Telegames	UK
- April	Zozzriorx	shooter	Retour 2048	UK
- May	Double Dragon	beat 'em up	Tradewest	UK
- June	Indiana Jags	action	Retour 2048	UK
- June	Battlechess	simulation	Interplay	UK

Magazines

Date	Game Title	Type	Publisher	Country
6 January	Super Play	SNES	Future	UK
6 January	Sega Power	Sega	Future	UK
6 January	Game Zone	Nintendo	Future	UK
13 January	Amiga Power	Amiga	Future	UK
13 January	GamesMaster	multiformat	Future	UK
27 January	TOTAL!	Nintendo	Future	UK
27 January	MEGA	Mega Drive	Future	UK
27 January	PC Format	PC	Future	UK
27 January	Sega Zone	Sega	Future	UK
27 January	PC Gamer	PC	Future	UK
27 January	**Edge** 6	multiformat	Future	UK

Jaguar



the world's first **64bit** console

Photography: **Srewart Whale**

The first units of Atari's Jaguar console are already onsale, but its longterm future is far from certain. Will the Jaguar get the software it needs to prove itself? **Edge** talked to Atari and to the major players in the software industry to find out...

'If it had a Nintendo or Sega badge, nobody would be in any doubt that it's an amazing machine.'

Ian Mathias, software manager, Virgin

Software sells hardware; it's a cliché, but only because it's so true. Nobody buys hardware to take it apart and admire the circuitry, they buy it to use it. And in the interactive entertainment market that means they buy it to play games on it.

The success or failure of the new Jaguar console – in spite of its outstanding technical make-up – won't be solely determined by Atari. It's as much to do with whether the world's software developers back the new system.

Sure, Atari can create the right environment to encourage success, they can come up with a mind-blowing marketing campaign and they can build strong relationships with the publishing and retail community. But even if they do all this, they still can't totally control the Jaguar's destiny.

And remember, pitching the Jaguar as the next level of interactive entertainment, Atari is not only going into the ring with Sega and Nintendo, it is also taking on the super-heavyweights like Matsushita, Philips and AT&T. And with enemies like that, it's going to need all the friends it can get.

Naturally Atari claims that it has software support in strength and depth. The firm currently lists over 30 firms with work-in-progress for the Jaguar. Among them are Anco, Krisalis, Maxis, Ocean and



Darryl Still, marketing manager of Atari UK: 'Jaguar is not just the first 64bit console, it is the first 64bit system of *any sort*'

US Gold. It's not a bad line-up, but it does rather pale in comparison to the 300 companies worldwide that have signed up as 3DO licensees.

But then, The 3DO Company put up an incredible barrage of pre-launch publicity for their system. And most agree that in comparison, Atari's pre-launch campaign has been fairly low-key.

Edge spoke to some of the leading names in the software world to gauge the industry's general reaction to the Jaguar. And in general, enthusiasm for Atari's super-console was decidedly muted.

At Virgin, software manager **Ian Mathias** is one of many who believes that the Jaguar's problem is not with the technology, but with the company behind it. 'If it had a Sega or Nintendo badge, nobody would be in any doubt that it's an amazing machine. But...'

The sentence trails off, leaving plenty of room for thoughts about Atari's poor track record. Like their ST that promised a lot then died, the Panther – promised and never launched – and the Falcon, whose launch has been far from overwhelming.

Also to be considered is the company's perilous financial position – Atari lost over $73.6 million in 1992.

Now you can start to see why those developers might want to avoid committing themselves to the Jaguar – even if it is the world's first 64bit, 16 million colours, 27 Mips, 4Kb SRAM console...

At Ocean – despite the fact that the firm is working on a Jaguar title – Software development director **Gary Bracey** agrees with doubts about the company: 'If Nintendo was to introduce this machine and say they'd be selling it for

Continued next page

techview: 64bit



The front of the Jaguar carries two joystick ports. It's interesting to note that the size and shape of these ports haven't changed since they first appeared on Atari's VCS system; but now they have a damn sight more pins to cope with the Jaguar's mammoth 17-button joypads

Continued

£200 we'd be jumping through hoops and shouting from the rooftops.'

Atari's problem is that it needs to convince publishers that it can fund the sort of marketing campaign that can put the Jaguar's profile up there with machines from Sega and Nintendo – as well as 3DO machines from companies like Matsushita, one of the biggest electronics manufacturers in the world.

As Konami's European consumer manager **Pete Stone** points out: 'It's not about technology, it's about marketing. Coming up with the best machine just isn't good enough.' He adds that from what he's seen, 'the Jaguar stacks up pretty well against 3DO,' but that 'it's clear that Atari haven't got the finance or worldwide muscle to really compete.'

Jeremy Smith, managing director of Core Design, sees Atari letting another opportunity slip by: 'The Jaguar's far better than anything else on the market and better than anything I've seen in development. But there's a tendency for Atari to be the innovators who never see the rewards for their work. Other people seem to take their ideas and market them more professionally.'

At Mindscape, European managing director **Geoff Heath** goes even further: 'I think there are two question marks over the machine; one is Atari and its ability to market it properly, and the other is the fact that the base unit is a cartridge machine.'

At Psygnosis, managing director (and development guru) **Ian Hetherington** has similar doubts: 'It's either an over-priced and over-specced cartridge machine or an under-specced CD machine. If you are going to launch a CD machine you must be committed to the format and make it CD-based from day one.

'If Atari wanted to launch a cartridge machine then they should have looked at a pricepoint of £75. If they wanted to launch a CD machine then £250-£300 is fine, but it would have to offer a lot more than this.'

Psygnosis, as you may have gathered from these remarks, will not be developing any Jaguar titles. 'We've had a machine for about a year and we're not massively impressed, not impressed at all really.

'If you compare the Jaguar to virtually any of the other emerging formats then I think it would come off second best,' Hetherington concludes.

Back at Ocean, Gary Bracey has no problems whatsoever with the quality of the hardware: 'It's terrific, the best I've seen. From a purely technical point of view it's ahead of 3DO – but we can't let our technological judgement cloud our commercial judgement. And it has to be said that we probably still need a bit of convincing in terms of its financial viability.'

'It's about marketing. Coming up with the best machine just isn't good enough. Atari haven't got the muscle to compete.'

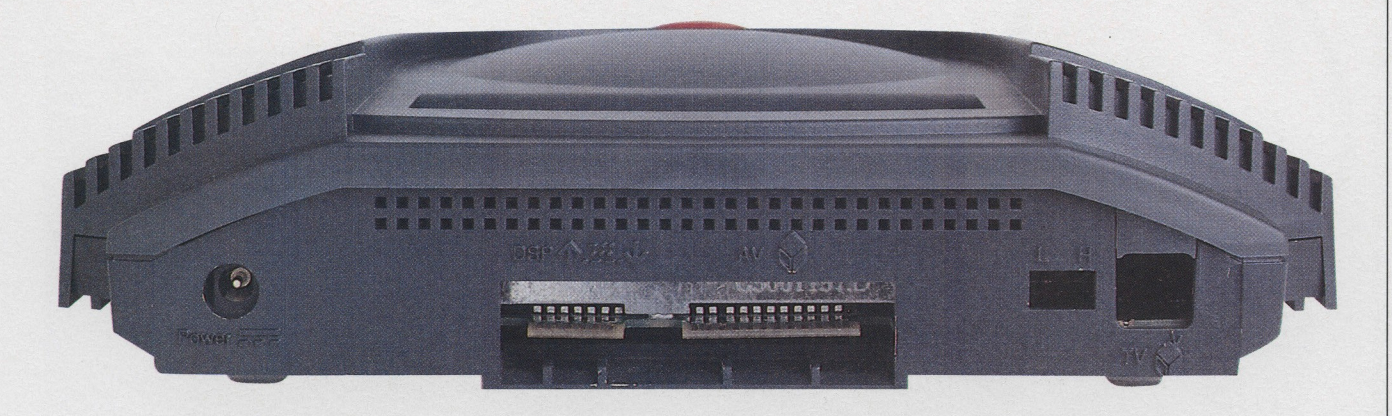
Pete Stone, European consumer manager, Konami

And that's about as good as it gets. Some software houses are impressed by the Jaguar – excited by the potential of the technology – but most are putting the brakes on their enthusiasm due to their serious doubts about Atari's ability to maximise the Jaguar's potential.

As Virgin's new media manager **Steve Clarke** puts it: 'Marketing always wins out in the end and you've got to question Atari's ability to compete. Virgin is a global company and it's got to look at global penetration. At the moment, who's heard of Atari in the States?'

There is even less encouragement for Atari at Sony. Product development director **Phil Harrison** blasts: 'Nobody has spoken to me. They haven't even been courteous enough to invite me to developers' conferences, and I'm certainly not going to spend my time chasing them. I'm not even sure who to speak to there. But, to be honest, I really don't think we're missing out.'

It would seem that the publishing community's view of Atari's Jaguar is lukewarm at best. Some firms are obviously knocked out by the technology. Indeed the high level of enthusiasm for the machine itself gives some indication of just how much mistrust of Atari there must be for these firms not to commit themselves



The rear of the Jaguar supports the power and RF ports, plus an AV interface enabling users to utilise a composite video or S-VHS signal – with an optional lead. There's also an I/O slot, no doubt for the plugging in of devices such as modems, TV cables, VR headsets... future proofing or what?

wholeheartedly to Jaguar.

In this sort of climate, Atari is going to find it desperately hard to make the Jaguar a massmarket proposition and a true competitor for machines from Nintendo, Sega and the 3DO camp.

But let's put any marketing confusion to one side and concentrate on the Jaguar hardware itself. There's plenty of talk about Atari's impressive tech specs. **Edge** met Atari's vice-president of engineering, **Richard Miller**, to get the real picture…

Edge Atari are very keen to stress the flexibility and potential for expansion that the basic Jaguar offers, but at $200 the basic model Jaguar is still a highly impressive piece of gamesplaying kit. What did Atari have in mind when the system was being designed?

Richard 'We didn't move upwards from what games machines are today, but instead came down from the workstation concepts Atari had been doing on multi-thousand dollar machines. We just made that technology more cost-effective.

'We gave ourselves a blank sheet of paper and asked what would be the most powerful games machine we could make given all the technologies we know about, from all the different areas of graphics and audio systems.'

Edge So what does that all boil down to?

Richard 'Basically, it's a 64bit multi-processor graphics and audio workstation that happens to be extremely good at games. It's the world's most powerful videogames machine. That's what we want it to be, and this is how we'll make money on it. It's years ahead of anything else we know about or have heard from other people about.'

Edge So what can it do, exactly? Give us a couple of examples of how advanced this technology is…

Richard 'Jaguar can display 16 million colours. We could display them simultaneously if we could find a monitor with that many pixels. But each pixel can be represented by a 32bit value – 24bits of that are used to represent the video which is 16 million colours. We do, however, have lower resolutions available which can improve the interactivity even more.

'So the quality of the visuals is photographic – it's as good as you'll see on LaserDiscs, in fact better than you'll see on LaserDiscs. We have a variety of video outputs: RF, composite, S-VHS and RGB – so if you have a Scart monitor back in England you're going to get the resolution quality of a computer monitor.'



Richard Miller, Atari's vice-president of engineering in the US: 'It's the world's most powerful videogame machine...'

Edge It can't get much better than that…

Richard 'Right, the depth of the graphics is as good as the eye can see. The human eye can perceive about one million colours. In an RGB space you need 16 million to display the one million that the eye can perceive. We can do this, so in other words you can't get any better.

'But not only can we display great static images such as this, we can animate them. Jaguar's primary strength – and this is something that has never been seen before – is that it can handle real-time rendering of 3D shaded polygons. You will see in the game *Cybermorph* that you're flying in a true 3D world. The world is represented by a 3D database much like that used by graphics workstations.

'What Jaguar hardware does is take that database and render the polygons that are visible from your viewpoint. This means that games like this are much simpler to write; you simply generate your database then turn the 3D rendering engine on, and the Jaguar will display your database from whichever angle you want, with whatever light source you want. You are completely unrestricted in where you fly: you're not on rails, you're not restricted to one path, you can fly in all directions and at any angle.

'It means that multiconsole games will be very easy to do, because the amount of data that has to be transferred between machines is always very small.'

Edge And at what frame-rate is this all taking place?

Richard '30 frames per second.'

Edge Impressive stuff. So why not go one

Continued next page

techview: 64bit





Jaguar's 17-button joypads (left) give you access to a multitude of in-game options – like *Crescent Galaxy*'s many weapons (above)

Continued

step further an include a CD drive in the basic model?

Richard 'Frankly, for the extra $200 the extra gameplay that you get from the addition of a CD is pretty limited. Sure you get great audio – you can have a great 'house' track blasting while you play your game – but then you could just easily turn on your stereo system. You can have more graphics, but only at the loss of interactivity. The big advantage of a ROM cart (the Jaguar has a 32bit ROM cartridge) is that there is no slowdown whatsoever in accessing sound and graphics in-game.'

Interactivity is a very important consideration – and it's refreshing to hear it from a hardware manufacturer. But putting CD-ROM technology aside, there's always a tendency with developers and programmers faced with any new, powerful graphical technology to put the technology immediately to work – even if it means chucking gameplay and interactivity out of the window…

Richard agrees: 'Yes, there is a tendency with games developers to concentrate on just how realistic they can get the audio to sound and the visuals to look. When, in fact, there are some wonderful games out there which don't look real at all.

'The problem is that the higher the resolution, the harder it is to make games interactive. So typically, when you have 256 colours onscreen it uses about 100K, when you have 16 million colours it uses four times as much – so it takes four times as long to move them around the screen. This means you can't just add more colours – you have to add bus band width and graphics power at the same time: this is why we had to go to 16bits and develop our own custom processors.'

But even if Jaguar has tackled the hardware problems of keeping processing power free to listen to the gamesplayer, other obstacles in the way of player interactivity come in the form of man hours and development costs.

If background graphics and characters sophisticated enough to utilise this graphical technology are to be used in a game, they take a lot of time – hence cost a lot of money – to design and draw. This is a price that developers don't want to pay, the result being more linear and less interactive games that minimise player influence on the proceedings.

'We have been really insistent that the games that are being developed will show off Jaguar's full potential', Richard claims.

But even if Atari's own games won't suffer from any such penny-pinching restraints, it's really down to the thirdparty publishers to let Jaguar sink or swim.

A couple of Japanese console giants may have something to say on the matter too – both Sega and Nintendo claim to have next-generation super consoles ready in the wings waiting to be rolled out when the time is right. They're not going to sit still and give up their stranglehold on the world console market without a fight.

One thing's certain. The sub $200 console war is destined to be a bloody one. How does Richard fear the threat from Sega and Nintendo's new machines?

'We look forward to seeing them' comes the confident reply.

'We've been really insistent that the first Jaguar games that are being developed will show off its full potential.'

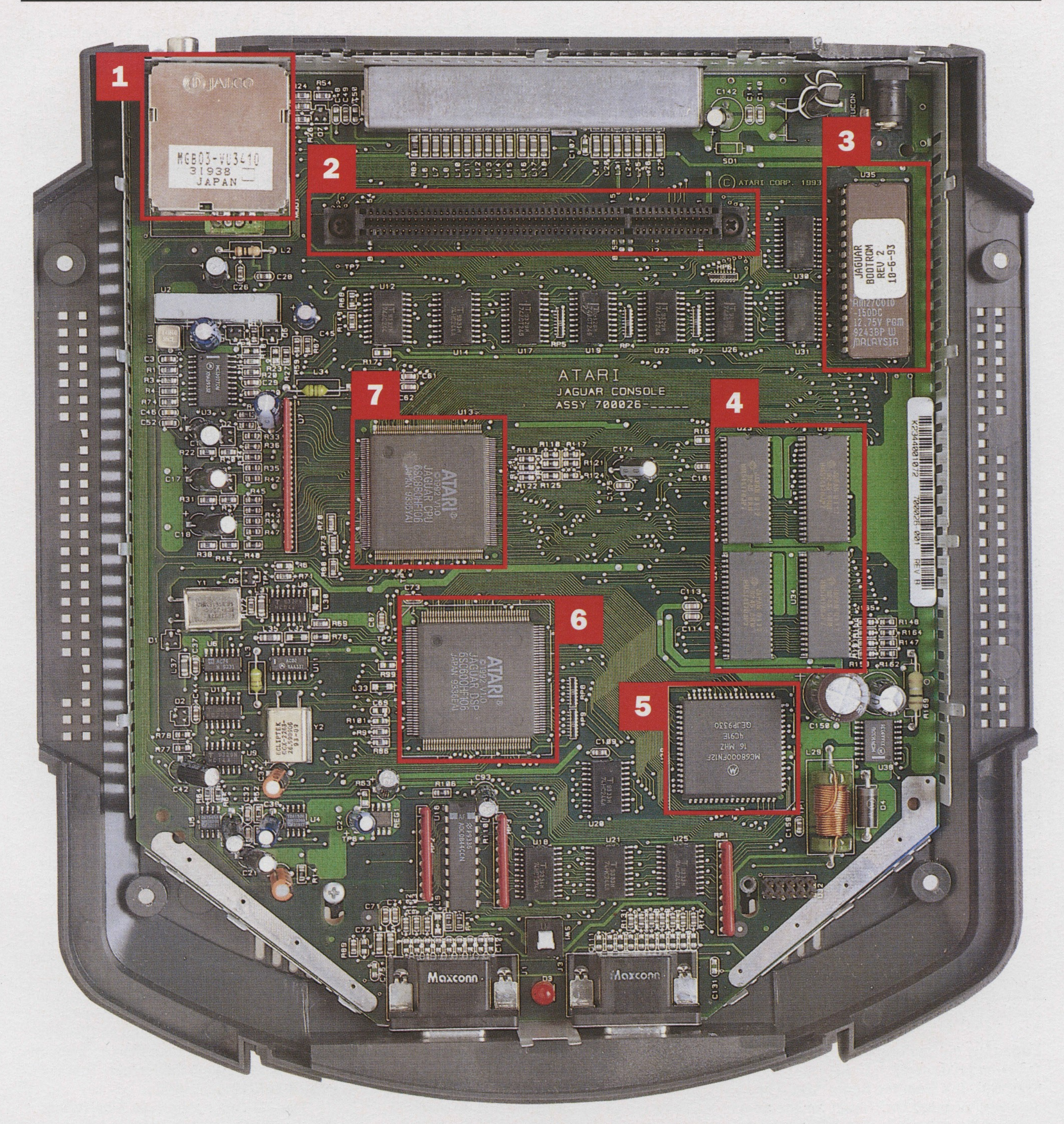
Richard Miller, vice-president of engineering, Atari US

So Atari seem confident enough of the success of their console. And early sales reports indicate that the Jaguar is selling fast. And that's in spite of the fact that the big developers aren't exactly tripping over each other to develop the first games for it.

Jaguar is a mightily impressive piece of kit, that – if pitched against the current systems on offer from Sega and Nintendo – deserves to clean up.

But don't forget the Sony PlayStation, Sega's Saturn and Nintendo's SGI system. The competition could be about to get a whole lot tougher… E

Inside the big cat



1 TV modulator – provides a full screen PAL picture. **2** 32bit cartridge connector. The CD unit plugs into this (cartridges then plug into the top of the CD unit). Cartridges up to six megabytes (48 Mbits) can be inserted here. **3** Boot ROM chip. The letters 'ATARI' spin onto the screen and a parallel projection 3D cube with Jaguars texture-mapped onto the faces rotates for a few seconds before each game is run. **4** DRAM chips. Two megabytes of data can be accessed from here, 64bits at a time. **5** The 68000 chip (remember them?), clocked at 13.3Mhz. This is used to boot the machine and coordinate the custom processors (Tom and Jerry) which do most of the work. **6** Jerry, the custom sound processor. This is a RISC chip which contains 8K of internal program/data store, reducing the need to access main memory. It has 16bit DACs (digital to analogue converters) for sound. It also drives the ComLynx interface which allows Jaguars to talk to other Jaguars – or even Lynxes. **7** The second custom chip, Tom. This contains the blitter, object processor and GPU (graphics processing unit). The GPU is a RISC chip with 4K of internal program/data store which can multiply in one cycle and is also optimised for matrix operations. The blitter can scale and rotate images in up to 24bit colour, has Z-buffering capabilities, can Gouraud shade polygons and depth shade textures. The object processor can scale images in up to 24bit colour. All in all, one powerful little son-of-a-bitch...

Developing with Attention To Detail



Photograph: Steve Jarratt

Chris Gibb (left) and Fred Gill (right), managing director and technical director of Attention To Detail – the UK developers of the world's first 64bit videogame, *Cybermorph*

The first game for the Jaguar, *Cybermorph*, was developed in the UK by Attention To Detail, a small software house based in Warwickshire. **Edge** spoke to **Fred Gill** and **Chris Gibb**, founder members and directors of ATD...

Edge How did you originally get hold of the *Cybermorph* project?
Fred Gill 'It's from the Konix days. The guys who designed the chipset for the Konix designed the chipset for the Jaguar. We did a flying carpet demo on the Konix 1 in just 11 days from having it from scratch. It's a bit *Zarch*-like in the way the carpet rolls, and they liked that, so they asked us if we were interested in doing some demos for the Jaguar chipset. And more importantly at that time the chipset hadn't been debugged. So they needed someone to find all the bugs for them. That was about 18 months ago now: we've had the Jaguar longer than anybody else in the country – probably even the hardware designers, I think.'
Chris Gibb 'We had about 12 weeks to test and debug and to see what the machine could and couldn't do; it was a really productive time because a lot of little things came out of the hardware and we made suggestions about things we'd like added.'
Edge Such as?
Fred 'There are couple of 'bits' left unused here and there in the blitter chip, and we asked them if they could include a mode where, when you're texture-mapping, you can add a constant value to the pixels, so it does depth-shading – *Aliens Vs Predator* uses that to good effect. They also asked us if we had any instructions that we wanted to put into the processors and we thought of a couple. It's nice to see hardware designers listening to software people.'
Edge What do you think of Jaguar?
Fred 'It's a very, very powerful system – underused at the moment. It's going to take people a year or two to get into it, at the very least. It has its problems: you always want more speed, you always want more power, software guys always want more. But we're very impressed with it; it's got a lot of potential. And it's got two or three years before the next 64bit system can come out and beat it, including Jaguar 2.'
Chris 'I like the fact that it's got a number of different processors that work in a variety of ways. When you come to solving a software problem, there's more than one way of doing it.'
Fred 'Yeah, you can turn a problem upsidedown, on its head, and find a really elegant solution, which you can't when you've only got one way of programming it.'
Edge So what's the best thing about it?
Fred 'The fact that the three processors in there all have separate memory. There are three main processors: the GPU, Graphics Processing Unit, is a RISC-based processor. It's got its own instruction set and it's got 4K of internal memory. It doesn't have to go to external memory unless it wants to.

'Then there's the DSP which is the Digital Sound Processor, and that's got 8K of internal memory, which it needs for decent sound. So it can do all the sound synthesis – using FM or whatever – again without going to main memory.

'The other thing that Atari call a processor is the blitter, which is basically a block moving chip, but it can do rotation and scaling. It can do four Gouraud pixels in one go – in two cycles effectively. It's also got hardware Z-buffering, which allows 3D shapes to go through other 3D shapes: it's a way of depthcueing objects. It gives you to a pixel by pixel resolution on how deep a pixel is in the screen. It's quite unusual to find in a machine like this.'
Chris 'An example of where we use it is in one of the end nasties in *Cybermorph* – Head Hunter he's called – and he flies over this undulating terrain but then occasionally he just sinks through the terrain. That's what Z-buffering gives you.

'The Bio-Blobs also show Z-buffering: they're blobs of gooey stuff that attach themselves to your ship.'
Fred 'That's the nice thing about Z-buffering: the landscape is done in a separate process. In *Cybermorph*, we draw all the objects, and then draw the landscape underneath. And the Z-buffering takes care

Continued

of it all for us.'
Edge With *Cybermorph*, how much stuff are you shifting around?
Fred 'There's between 400 and 600 polygons a frame, and it's running at between 10 and 18 frames a second. When it's moving 600 polygons, it's probably about 10 frames a second – so it handles around 6,000 polygons a second.

'We haven't really done any statistics because the polygon sizes vary so much. But we definitely reckon we can get a 50-100% speed up on the engine. You can equal it if you do flat-shaded polygons: a 486 at 66MHz with Local Bus will probably do the same but not with Gouraud shading.'
Chris 'Gouraud shading's a very subtle technique: you're adding a fixed light source somewhere within the world, and the colour intensity changes across the face of every polygon. You plot the light source to every polygon on a shape, and suddenly it's got a dark side and a light side and the whole thing looks more solid and you lose the polygon look. And that really is the hallmark of *Cybermorph*; every terrain makes use of that.'
Edge What about texture-mapping?
Fred 'The two custom processors – Tom and Jerry – allow you to do it. Jerry is the DSP, which is basically for sound. Originally we were hoping that some of the processing power would be left over in Jerry so that we could, say, do the 3D rotation code in there, then Tom would start rendering that while Jerry was doing sound. But as it turns out, everything is using the DSP to its full, so there's no spare memory, no spare processing power.

'Tom is the graphics chip, and is very quick at running the blitter because he can write to the memory locations that the blitter requires very quickly. If you run it from the 68000 it's a slower process. The blitter has the capability to step through an image in X and Y coordinates independently, and that is very good for texture-mapping. It wasn't designed to though: the hardware designers were very surprised when they saw it, but they were very glad. It's a side effect of the rotation capabilities that the blitter has.'
Edge It's not actually dedicated texture-mapping, so is it any good?
Fred 'It's not as good as it could be: it's roughly ten times slower to do texture-mapping than Gouraud shading. With these processors, there isn't much point using the tricks you'd normally use on PC, because it's only one tick per instruction. You may as well do it the hard way – everything's long-winded but it still turns out to be fairly fast, and it's easier to follow.

'For instance, you can store things as logs and look them up in a table, but it's actually slower to look in the table – because you have to access external memory – than it is to do the multiplying on the fly. It also has something the hardware designers call Sistolic multiplying – meaning heartbeat – which means it can do one multiply per tick. It will allow you to do the matrix multiply yourself, and it'll do anything between a three by three or an eight by eight matrix in the number of elements. So a three by three takes nine cycles, and an eight by eight takes 64 cycles – and that's *very* quick.

'The two internal chips are clocked at 26.6 MHz, and the 68000 is clocked at 16MHz. The 68000 can be run in parallel with Tom and Jerry, so in *Cybermorph* we have it moving all the objects in the world.'
Edge What sort of games would you like to see on the Jaguar?
Fred 'I'd like to see a texture-mapped game with CD-ROM that's interactive, that doesn't feel like you're sat watching it. I think designers have a lot to learn before that happens, unfortunately.'
Chris 'There's this general feeling of what CD can bring to a game; it would be nice to try and create one, or at least move in the right direction. And Jaguar would be as good a platform as any to do that on.'
Edge Anything you dislike about Jaguar?
Fred 'The thing I want to say I can't because of Jaguar 2 – Atari are already working on that, and they're consulting the us about what they would like in Jaguar 2.'
Edge Why do another system so soon?
Fred 'The Jaguar chipset has been three years in development, and they want to have Jaguar 2 when Nintendo hits with Project Reality. Jaguar 2 will still be 64bit – 128bit is a big leap to take and is very expensive.

'Originally Jaguar was intended to be 40MHz, and the chips turned out to be very hard for the silicon manufacturers to produce; they wouldn't guarantee them at 40MHz. So part of the process will be making sure that Jaguar 2 is at least 40 and probably 50 or 60MHz.

'But there are things missing from Jaguar which they will be putting in. Full texture-mapping, generated textures, maybe we'll even have Phong shading...

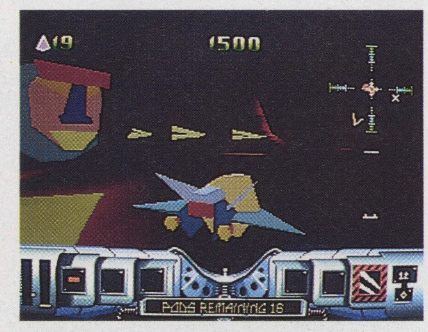
'They're talking 1995 for a Jaguar 2 release, the changes are mainly speedups and a few hidden things here and there.'
Chris 'I think the best thing about Jaguar is the price point. When you look at the kit you're getting, the price to power ratio is excellent; you just can't argue with it.'
Fred 'Of course that doesn't mean anything if the games aren't any good. What it does give is a future proof machine: three, four years down the line, we'll have Jaguar 2, but it'll still be running old software.

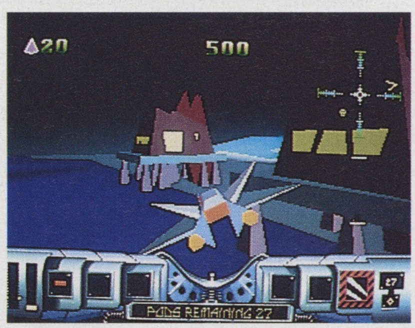
'And that's something I'm not sure you've got with Nintendo. I've got a Super NES, but I know in two years' time it'll be dead; no-one will be producing software for it...'

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'It's a very, very powerful system – very underused at the moment. It's going to take people a year or two to get into it...'

Fred Gill, Jaguar programmer and director, Attention To Detail







***Cybermorph* certainly shows off some the Jaguar's 3D graphics capabilities, such as Gouraud shading and Z-buffering. And for the first 64bit game, it's not half bad...**

techview: 64bit

Rebellion Software



Photograph: Jason Brookes

Rebellion Software: (from left to right) creative director Jason Kingsley (back), artists Stuart Wilson (front) and Justin Rey, programmer Mike Beaton and artist Toby Harrison-Banfield

Continued

Edge visited Rebellion Software in Oxford – developers of two new Jaguar titles and one of the first companies to talk about software development for Atari's new machine.

Rebellion's creative director, **Jason Kingsley**, was certainly very impressed by the Jaguar. 'It's superb, even comparisons with PCs are favourable. I'd say that speedwise, in 256 colours, a 486 DX2 (66MHz) PC will just about match the performance of the Jaguar. But then the Jaguar will probably be able to offer the same speed in 16 or 24bit colour...'

Edge then quizzed Rebellion programmer **Mike Beaton** about the machine's advantages and restrictions.

Edge We'd be inclined to suggest that the graphics in *Aliens Vs Predator* are roughly on par with what's possible on a 486 PC. How much potential for improvement is there on the Jaguar?

Mike 'I'd say you could do a lot more with the frame rate and the texture-mapping for a start. We save processing time by making sure that things are only drawn when they're visible. Walls that are obscured behind other walls are calculated but not drawn. You could certainly do a lot more with the freedom of movement, too.

'As a comparison, the *Ultima Underworld* games are based around a true 3D polygon maze, while *AVP* is a maze system optimised for speed. There are many things that could be improved as we learn about the machine. Our next project, the 3D dungeon game, will be an extension of the graphics engine used here.'

Edge And what about the number of colours onscreen – how much bearing on speed does it have?

Mike '*Aliens Vs Predator* runs in 16bit colour mode. That is 65,000 colours onscreen at once. Of course the machine has a true colour mode for over 16 million onscreen but then this obviously eats up processing speed. True colour will probably remain the preserve of still screens and intros. When the CD-ROM arrives, I guess it'll be exploited more.'

Edge Do you think the Jaguar's a programmer-friendly machine?

Mike 'The machine's suited to a certain style of programming. Someone coming from a PC background will be far more at home with the machine than someone who's used to programming consoles. The reason being that the chips in the Jaguar are general purpose ones, whereas most consoles include chips that have default effects such as Mode 7 in the Super NES.'

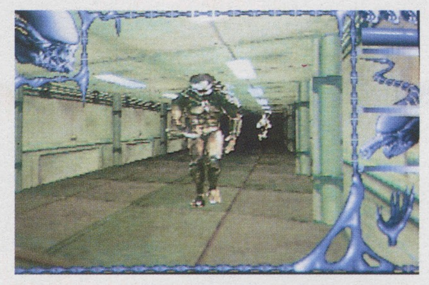
Edge What about sound?

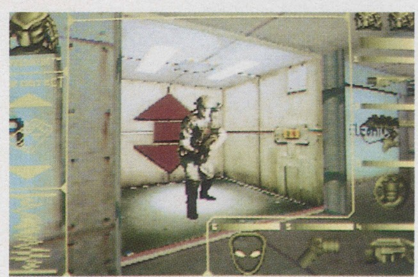
Mike 'The DSP is as powerful as the graphics processor. It's so powerful spare number crunching can be allocated to help out with graphics calculations. Unlike other consoles, there's no specified restriction on the number of simultaneous channels you can have playing. That's the beauty of the machine's architecture – what you lose in specific functions, you gain in versatility.'

Edge With the so-called 'Jag-PEG' compression built into the machine's hardware, just how much data can be compressed onto a 16 Mbit cartridge?

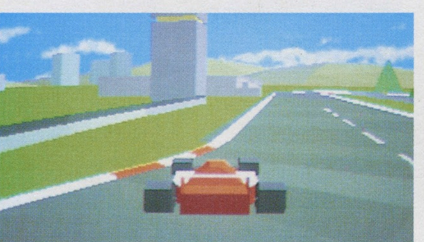
Mike 'Jag-PEG is really just fancy name for the Atari version of J-PEG – a compression routine that can compress data at rates of up to 40:1. Of course, the quality suffers badly with rates this high and in *Aliens Vs Predator* we've managed to get the game compressed at a ratio of just under 7:1 without any loss in quality.

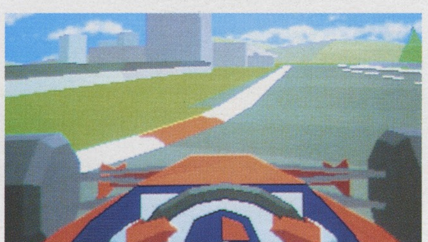
'That effectively gives us around 14 megabytes (112 Mbits) of space on a two megabyte (16 Mbit) cartridge. Of course, with a lot of static 24bit screens in the game this easily gets filled up...'





***Aliens Vs Predator* shows that the Jaguar can do more than just polygons... it can texture map and depthcue them too**





Nearing completion is Rebellion's racing game, tentatively titled *Checkered Flag II*. Comparisons to *Virtua Racing* are obvious, but the games are pole (positions) apart...


A CHAUVINIST PIG ADVERTISEMENT
SUPER MARIO ALL-STARS

The



sell

Edge explores that twilight zone between image and reality where the marketers hatch their plans for global domination. Does the Hype Machine really manufacture anything of lasting value, or is it just consuming vast amounts of money, time and talent in a bid to pull the wool over the consumers' eyes? Read on



act: marketing is crucial to success in the videogames industry. **Fact:** the amount of money spent on videogames advertising in the UK has risen from £2m to over £24m in the last three years. **Fact:** the battle between Nintendo and Sega is as much about image and perception as it is about hardware and software.

The tangible barriers between the two brands are collapsing. This Christmas both will be marketing *Aladdin*, both will be marketing *Street Fighter II*. It is getting to the stage where the difference between Nintendo and Sega is the difference between Coke and Pepsi: a no man's land where the marketers go over the top to fight for the hearts, minds and wallets of the gamesplaying public.

And as the competition intensifies, the techniques used by the marketers' shocktroops are becoming more and more sophisticated.

The Sega/Nintendo battle is the most visible element of the marketing war, but beyond those two there are more and more software companies competing for share of a market whose growth rate everyone agrees is starting to subside.

So the Hype Machine's role has changed. Where once it was a case of simply communicating information about a product and its availability, it now has to manufacture a good reason why you should buy that game ahead of an equally good one produced by a rival firm.

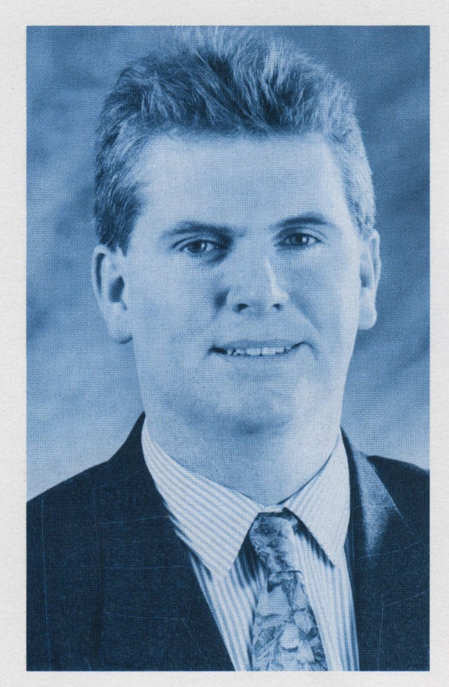
'We've gone through a very, very quick evolution', says Nintendo's marketing director **Mike Hayes**. 'Statistics say videogames are the fastest growing consumer durable product ever – in only three years the market's grown 3,000%, to a forecast retail revenue market of £700m this year. And obviously the brands within that have gone through some pretty fundamental changes from the early days, when the product was everything. We've now moved in an evolution of the life cycle to the stage where the value of the brand is becoming much more important.'

And this is where marketing plunges into the world of the intangible. Because those people who think that success is a simply a case of the best product wins should think again. Why, for instance, aren't you watching films on a V2000 or even Betamax VCR, or plugging DAT tapes into your Walkman?

The cynics will ask what, exactly, is a brand? Isn't it just the name you attach to a product, nothing more? The answer is in your own minds. When you go to a

Continued next page

mediaview



'We've now moved to the stage where the value of the brand is becoming more important'

Mike Hayes, marketing director, Nintendo UK

Continued

restaurant, how many times do you ask for a Perrier rather than just mineral water?

Sega and Nintendo are already brands. They both stand for something beyond the basic specifications of the hardware and software on offer. Sega in particular has been successful in defining itself among the core teenage market by embracing a rebellious, mildly anti-establishment attitude. The fact that Sega itself – notwithstanding its Richard Branson-tinged UK outpost – is a vast multinational corporation whose Japanese bosses are about as rebellious as Muffin the Mule is not important. The image Sega's marketers create brings with it its own reality.

'The brand is about innovation – 'Here's the new generation of interactive entertainment',' says Sega's marketing director **Simon Morris**. 'We have to be different, we can't do something tacky or old fashioned.' And Morris makes the telling point that the marketing, just like the 'real' products, has to be continually refined and improved to retain an edge over the competition.

And in 1992 more people bought Sega's marketing 'product' than Nintendo's – a fact now conceded by Nintendo's Mike Hayes. 'Sega's most successful market is the UK. Even though Nintendo has shipped more product here than anywhere else in Europe – Sega have performed strongly.'

The reason? Because Sega set 'a new standard and style of advertising' that has raised the marketing ante in the UK to levels previously undreamed of.

According to Hayes, 'We'd always been the market leader by a long way, and then Sega started their new style, which is primarily 'in yer face', primarily rebellion, and with the launch of their Mega Drive they managed to overtake us on market share for the period from the second half of '92 to the first six months of this year.'

That success has provoked Hayes to look for a new marketing product – the most visible result of which is the £10m advertising campaign featuring Rik Mayall that blitzed TV screens this Christmas.

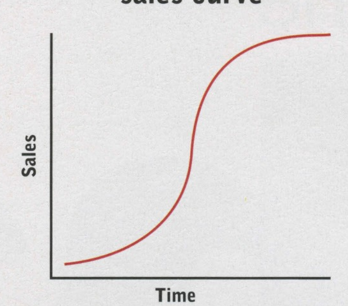
But while, at the top, Sega and Nintendo have learned the importance of marketing, the lessons are still being absorbed by the software companies.

When ad man **Jeff Tawney** left the agency Ogilvy & Mather to join Tengen as marketing manager in October, he ruffled a few feathers by launching a vicious broadside against the quality of marketing in the games publishing industry. Most of it, he claimed, looked like it had been produced by 'geriatric baboons'.

'Sega and Nintendo have been doing a fantastic job, but the general standard of press and trade advertising among the other publishers is appalling, it's a mess. There is still a fair amount of cowboys out there who don't understand what marketing tools they have.' He maintains there are 'enormous opportunities' for software companies who do get their marketing right.

Traditionally, the software companies have placed enormous emphasis on previews and reviews in the console magazines to push their new releases. There are two fundamental problems here. The first is that no matter how hard some companies try, the opinions of the journalists will always be something of a loose cannon. (Although one marketer of a

Typical new product sales curve



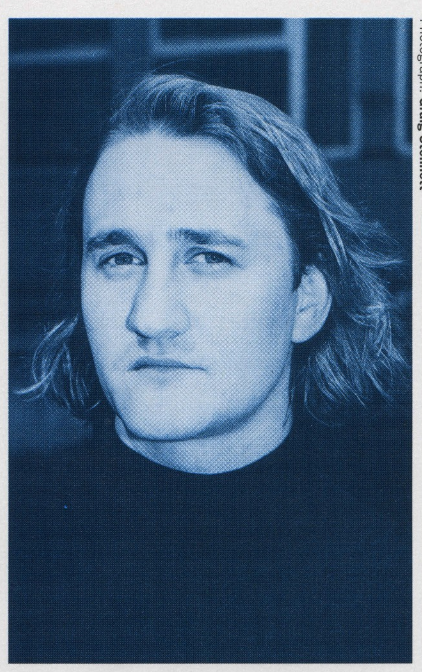
Early sales are slow, confined to 'early adopters'; as word of mouth spreads, so do sales. This accelerates as the marketing kicks in, and sales eventually plateau



Sega's ads have a high potential for confusion. Hands up everyone who thought there was a new Sega game called 'Planet Of The Pigs'? No: it's a pastiche on Planet Of The Apes. Hmm...



Rik Mayall hams it up for the Game Boy *Zelda* commercial. Over the course of their latest ad run, Nintendo are spending £1m a week to bring the word of Nintendo directly into your home...



Photograph: **Craig Stennett**

top software firm insists that spending £100 lunching a hack in a top London restaurant can generate tens of thousands of pounds in sales by 'preventing' a mediocre game being thoroughly canned. Needless to say, no names were given).

Secondly, the rapid growth of the videogames market means it is no longer the exclusive preserve of the early adopters and enthusiasts. 'If you really want to get out there and be a winner you have to take into account that a lot of people play games but aren't part of what might be called 'the anorak culture',' says Acclaim's marketing manager **Paul McGarvey**. 'You cannot just rely on the magazines to sell product for you.'

McGarvey should know. He is the man behind a campaign hailed by many as the benchmark for future software marketing: *Mortal Kombat*...

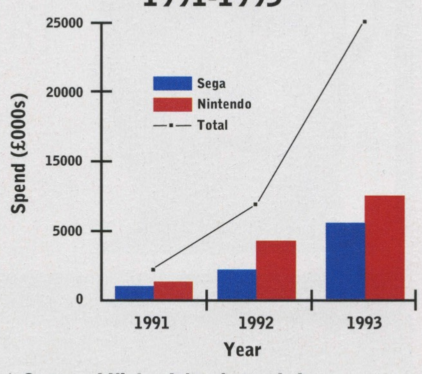
When Tracy McLeod, Will Self and some fat bloke with a beard spent 15 minutes discussing Acclaim's *Mortal Kombat* on BBC 2's late night arts chat show, The Late Show, it was clear that the Hype Machine had manufactured something more than just another straight videogame.

'You do get into something called a media spiral,' explains **Robert Partridge**, managing director of Acclaim's PR company Partridge & Storey. 'Things become famous for being famous. In the past I've worked with Frankie Goes to Hollywood, U2... When a campaign becomes sufficiently attractive to the media, things start to happen even despite you. The funny thing to think about, though, is how on earth do you control it then?'

Of course, *Kombat* had a major advantage in the media spiral stakes thanks to its now notorious 'death moves'. Although no one from Acclaim will admit it on the record, the pixellated depictions of blood and mutilation are a crucial part of the game's marketability. To use the jargon, they gave the game a unique selling proposition (USP) setting it apart from all of the other beat 'em ups in the market.

The challenge for Paul McGarvey and Robert Partridge was to use this bloody USP to their advantage – without provoking a massive media backlash that could stop some of the big retailers like Boots and Toys R' Us stocking the game (as they initially refused to stock Sega's 15 certificate game, *Night Trap*).

Sega and Nintendo ad spends 1991-1993



Sega and Nintendo's ad spends have accelerated in proportion to the growth of the market. This year the total tops £24m

'In a sense marketing is a product to Sega, and we have to keep up to date. The brand is all about innovation'

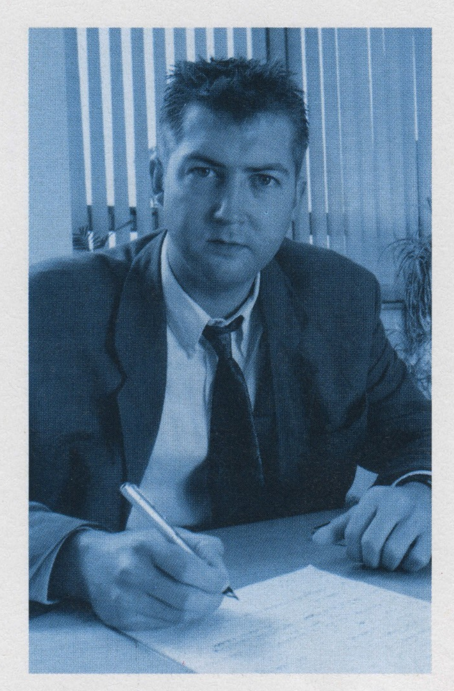
Simon Morris, marketing director, Sega Europe

That meant a combination of a £1m 'lifestyle-oriented' TV and poster advertising campaign, and some sophisticated spin doctoring of media enquiries about digitised blood and guts.

'The posters for instance don't feature the game or packaging,' says McGarvey. 'Instead it's making a statement that this is a powerful piece of popular culture. Yes, it was risky, it's been done for movies and records but it's never been done before for games – they tend to be very straightforward: 'Here's the game, here's a couple of quotes from magazines, here's a couple of screenshots – oh, and by the way, it's out now'.'

The campaign targeted older consumers – 12-25 yearold males – as opposed to the five yearolds that *Sonic* is pitched at. But McGarvey admits that many youngsters may have also been drawn to the campaign because 'it looked so different, so distinct from the way other

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‘The general standard of advertising… is appalling. There’s a fair amount of cowboys out there’

Jeff Tawney, marketing manager, Tengen Europe

companies marketed their products’.

The sheer size of the campaign was unprecedented – the typical amount of money spent by thirdparty publishers on promoting an ‘A’ title until then was between £100,000 and £200,000. *Mortal Kombat* is probably the first example of a game where the marketing budget was bigger than the development costs.

Acclaim were able to muster up the budget because the game was being launched on so many different platforms simultaneously, allowing a ‘pooling’ of marketing resources behind a generic *Mortal Kombat* campaign.

On the PR front, Partridge had a prepared script with which he defused any media criticism. (He has had plenty of practice at such ‘fire fighting’: two years ago the rap group NWA’s record company brought him in when the police threatened to ban the group’s Niggas For Life album.)

‘We knew *Mortal Kombat* was going to make a good tabloid story, but instead of being reactive or simply saying ‘no comment’ we were going to be pro-active’. That meant getting the grudging approval of advisory groups such as the Video Standards Council and the Trading Standards authorities; putting ‘Parental Guidance Advised…’ stickers on the packaging; telling journalists that comparing this game to real violence was ‘trivialising violence’ and pointing out that at £50 a pop five yearolds were unlikely to get hold of the cart without a parent buying it for them – ‘so it is up to them to decide the suitability of the game for their children’.

And it worked. The Hype Machine ensured that *Mortal Kombat* soon graduated from a videogame to a media event. The gore became folklore, but the press stopped short of outright condemnation. And soon the success of the game itself – the claim was that it notched up £15m worth of sales in its first week, a ‘box office’ take only beaten by Jurassic Park – became as newsworthy as the violence.

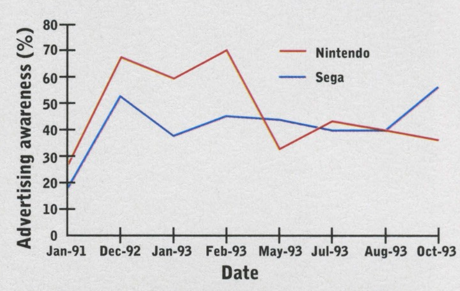
Acclaim expects to sell 500,000 copies of *Mortal Kombat* by Christmas, representing retail sales of around £20m. ‘And don’t forget we achieved that in spite of the specialist press – almost to a man they preferred *Street Fighter II* – the bastards!’, boasts McGarvey.

Already other publishers are taking on board the lessons from Acclaim’s *Mortal* marketing masterpiece. Ocean has spent £800,000 promoting its monster release, *Jurassic Park* – again benefiting from the economies of scale that a multiformat release brings. In some ways this campaign will be even more ambitious than Acclaim’s, because Ocean not only wants to sell *Jurassic Park* the game, it wants to promote Ocean, the brand.

‘There’s no other youth brand in this market apart from Sega and Nintendo,’ says marketing manager **Simon Alty**. ‘We want to position Ocean next year as a youth brand – something that is perceived as hip and happening – alongside those two [and] create a degree of brand loyalty for our products.’

But others are sceptical, saying that while Sega and Nintendo have the resources to brand themselves as hardware and software suppliers, thirdparty publishers are better off branding the games. ‘It’s not about selling Acclaim – it’s

Nintendo and Sega advertising awareness 1991-93



The battle between the two console giants to heighten brand awareness is hotly contested: a battle Sega is currently winning



Imitation is the sincerest form of flattery: *Mortal Kombat*’s marketing is a pun on Sega’s campaign; echoes of the ‘Sega does what Nintendon’t’ ads seen in US games magazines



in something of a bold move, Acclaim marketed *Mortal Kombat* without showing any images from the game itself. And with £15m worth of sales in the first week, it would seem to have worked



about selling the game. The kids don't care where a game came from, they just want it to be good!' says McGarvey.

Inevitably this kind of marketing costs big money, money that in the end is paid for by you, the consumer. The $64,000 question must be, therefore, is it worth it? Think about this: What would happen if all the companies closed down their marketing departments and ploughed back the money saved into bringing down cartridge prices?

The typical cost of marketing

Design and printing of packaging	£4-5,000
Design and printing of manual	£5-8,000
Point-of-sale material for retailers	£25-30,000
PR campaign (including launch party)	£5-7,000
Cost of specialist press advertising	£10,000-20,000
Production costs for TV commercial	£10,000
Media costs for TV commercial	£100,000-£150,000
Total spend	£170,000-£230,000

The answer is that pricing is part of marketing. Nintendo's Mike Hayes points out that since Nintendo took over the UK distribution from Bandai in April, hardware prices have come tumbling – Game Boy from £80 to £30, the SNES with *Street Fighter II* from £160 to £140.

But marketing's basic function – to communicate information about the products to consumers – remains as important as ever. Says Hayes; 'A fundamental of marketing is to let people know what it is we've got and what price it is. Some people might say £10m is too much to pay to do this, some might say it's not enough – but at the end of the day we've got eight million consumers out there. If you don't tell them what you're doing you're kind of dumb.'

And although the figures thrown about by marketers are mind-boggling to the man in the street, as a proportion of total sales they're relatively small. In Sega or Nintendo's case, marketing expenditure accounts for only around 5% of turnover.

Acclaim's Paul McGarvey asked retailers how much he would have to cut *Mortal Kombat*'s £50 price tag by to make big sales gains. 'They said making it £45, £40 or even £35 won't make any significant difference. You have to go well below £30 before it becomes an impulse purchase. And to bring the price down to that level would have cost a lot more than the £1m we're spending on marketing.'

So the answer is that marketing does cost the customer money – up to around £2 on every cartridge. But any short term

'Our posters made a statement that this was a powerful piece of popular culture. Yes, it was risky...'

Paul McGarvey, marketing manager, Acclaim

benefits for consumer from axing marketing costs are likely to be outweighed by higher costs and – possibly – the acceleration of the market's decline.

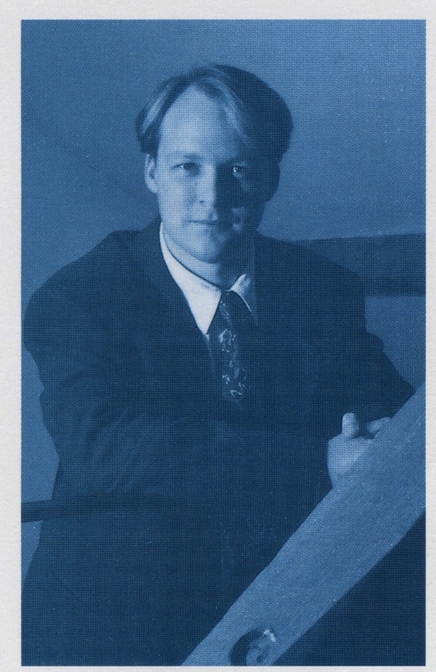
Still, you can get too much of a good thing insists Nintendo's Mike Hayes. Like every marketer in the world he maintains that the product is the most important factor of all, particularly in an industry where the punters are as media-literate and advertising-aware as this one.

'The product is always bigger than your advertising. But this business is in danger of becoming over marketed and over precious about that marketing.'

To backup his case he points the finger at – who else? – Sega.

He says that Sega's launch commercial for the Mega CD was a classic case of

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'We want to position Ocean next year as a youth brand – something perceived as hip and happening'

Simon Alty, marketing manager, Ocean Software

Continued

hyping a product beyond its capabilities. 'That [commercial] was extravagant and extreme. It was a two and a half minute commercial that cost god knows how much, and that sold 30,000 units – that's a bigsville flop in my book.'

Hayes maintains that some of Sega's activities – although brilliantly staged – are coming close to being 'marketing for the sake of marketing'. 'For instance I think that Sega's management of sponsorship is brilliant – every pound they put in they match with a pound on point-of-sale or PR. But sponsorship is about building a longterm relationship with the consumer, and we're in a very small, very active market where every year we lose a million buyers (as they grow out of videogames) and every year we gain a million.'

Sega contests both Hayes' figures (it claims, for instance, that 80,000 Mega CDs have been sold) and his analysis of the market. 'You can over hype and over sensationalise but that assumes that people will get bored of what we're actually marketing – and that remains our strong point,' says Simon Morris.

'The first of the five P's of marketing is product (**Edge**: the others are price, place, promotion and proposition) and that's what we get right.'

But Morris remains acutely sensitive to the accusations of hype for hype's sake. 'We've got to make sure that we don't disappear up our own arses – and to do that we've got to keep our feet on the ground and focus on the product coming through the pipeline.'

Marketing is all about creating and moulding perceptions, and in doing so it can boost the sales of a dodgy game and leave the consumer feeling like they've been had. But doing it too often can be hazardous to a company's health.

Take a film licence for instance, which for the marketer is rather like buying a ready-made brand off the shelf. In such cases the licence comes first and the gameplay a distant second. But despite that, the game will still sell because it has had a hot commercial property grafted onto it.

Similarly some of the most 'creative' marketing and promotional campaigns have been reserved for the most middle of the road products. 'At the end of the day if the product is no good you can still do a good marketing job on it and get reasonable sales,' says **Brad Shaw**, a promotional consultant whose clients include Virgin Games. 'But when the kids cotton on to the fact that it is not a great game, that's when the longterm damage is done to your credibility...'

Nintendo's Mike Hayes says that TV advertising can demonstrably boost sales of any game. 'You can say that a TV campaign grows everything fourfold in the first two weeks'. But its effects are far more impressive when applied to a true 'blockbuster' product.

Mario All Stars, for instance, he estimates would still sell 150,000 units without any TV support. With a decent TV campaign behind it – say around £500,000-£1m – that figure rises to 400,000-500,000 units, representing additional retail sales of up to £2m. But if you put the same amount of money behind a mediocre title, 'You may take it from 15,000 to 18,000 units.'

Sega's Simon Morris says his biggest mistake was over-estimating marketing's ability to shore up sales of a dodgy game. 'We advertised a piece of software that I knew was not a good game. It was a serious under-estimation of our consumers. I thought good advertising would make up for it, we just shifted a few more copies, and the consumers became a lot more cynical about our advertising.'

Sadly Morris will not be drawn on which particular game this was – only that it was advertised heavily on TV some time last year. He promises that it will not happen again: 'You can't kid kids. You may get away with it once, but they won't let you get away with it twice.'

The Hype Machine – for all its pistons, bells and whistles – is not infallible. Thank god and Amen.

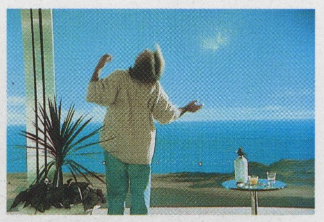


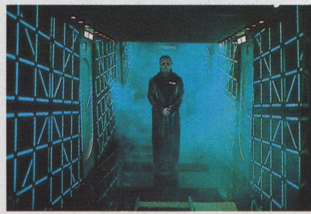
Behind the scenes of Commodore's CD³² ad. A poor man's version of Nintendo's Super NES commercial, the lack of software – only *Microcosm* gets a look-in – is embarrassingly noticeable

The Genesis of a Campaign









Nintendo's latest ad campaign kicked off on Friday 22 October and was created by J Walter Thompson. The campaign contains nine ads which star ex-alternative comedian Rik Mayall and were directed by John Lloyd of Blackadder and Not The Nine O'Clock News fame. Viewers are also 'nintroduced' to a new language

From start to finish, the new Nintendo campaign took about five months to reach the screen. The process began in June when Nintendo asked four advertising agencies – JWT, Bartle Bogle Hegarty, BMP DDB Needham, and its current agency Publicis – to come up with a completely new campaign.

The brief given to those agencies by marketing director **Mike Hayes** was straightforward: '*To accentuate the brand of Nintendo and present our products in a way more relevant to the kids of the 90s.*'

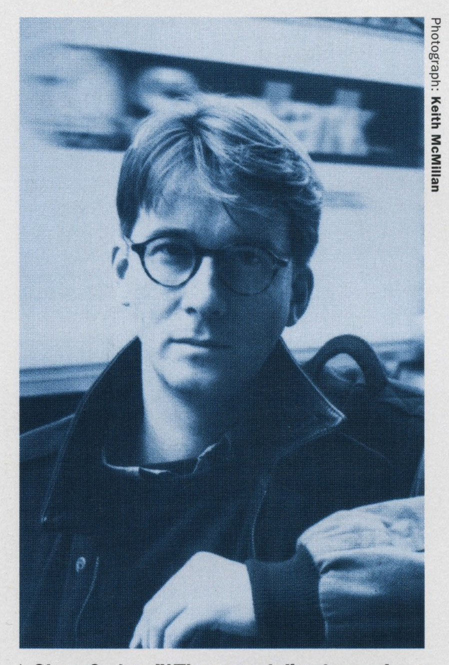
But behind the simple piece of typed A4 paper handed out to the agencies was some turbulent history and a major change in strategy. Nintendo had just taken over the business from the UK distributors Bandai and brought with it a much greater interest in pushing its own brand. More importantly Nintendo was still reeling from Christmas 1992 when it came a distant second to Sega.

'The low point was December last year, absolutely,' says Hayes. Nintendo's sales were far from bad – 500,000 Game Boys, 660,000 SNES, 400,000 8bit consoles – but it was knowing that they could have been much better that depressed Hayes.

'As a thirdparty distributor you can't fight a manufacturer-based subsidiary. We couldn't compete on price because we were essentially a wholesaler, we couldn't react quickly with new products, we were limited on the amount we could spend on marketing. It was a tough time.'

So a lot was riding on the new campaign. It not only had to fulfil the written brief, it had to meet the unwritten one: that Nintendo is back and this time it is going to be market leader.

The agencies went away and spent money on research to back up their creative proposals (a pitch for an account as big as Nintendo can cost an agency £20,000 or more) and all four came back with the same basic solution: humour.



Photograph: Keith McMillan

Steve Carter, JWT's account director, reckons Sega's ads were too extreme: 'Our campaign is an attempt to 'normalise' the market'

By the middle of July Hayes had made his decision: JWT. Over the next six weeks a process of creative development took place, during which time the agency had to firm up its loose creative ideas and produce storyboards of ads for nine products.

It was now that Rik Mayall was brought in. But advertisers always have to tread carefully when using celebrities in case the star becomes bigger than the brand.

Hayes says there is no danger of that happening with these ads: 'They've got a lot of product in them and we want them to be humourous and well branded – Rik Mayall fits that perfectly, but this isn't Rik Mayall does Nintendo, this is Nintendo entertains – and, by the way, we're using Rik Mayall.'

'Contractual obligations' prevent him from revealing how much Mayall is being paid except to say 'it was worth his while'. (Ad agency estimates vary from £30,000 to £50,000 'up front' with the possibility of Mayall earning the same amount again from the repeat fees that are paid to the artist every time a commercial is shown.)

The nine commercials were shot in late September to early October and post-production work finished just a week before the campaign made its debut on October 22.

JWT's board account director **Steve Carter** says the ads deliberately avoided trying to compete with Sega's anarchic Pirate TV campaign. 'Sega have gone a little bit too far over the edge. Our campaign is an attempt to 'normalise' the videogames market and bring it back into the mainstream.'

That translates as ads that even mums and dads can understand – without the deliberate confusion and exclusivity of the Sega campaign. And Hayes believes this classic, textbook approach will eclipse Sega's image-led style.

'We want to return to giving people good product, good value for money and a bit of stability. That's what being a classic brand is all about, calming the market down, maturing it, adding value. That's what we're trying to do with this campaign.'

Continued next page

To be this ad takes Sega £1m









For the last nine months, viewers have been dazzled, confused and bemused by Sega's Pirate TV campaign, created by WCRS. The foundation of the campaign was laid by as a series of ads in the specialist press, for a new brand of cat food, called A La Cat. The TV ads were then interrupted by the grinning pirate skull (top right)

Continued

Sega's Pirate TV campaign may look like the inspired stream of consciousness images of an insane TV executive but there is method in the madness.

Most of the footage that we see on our screens was filmed back in April when Sega was putting together that seminal two and a half minute Mega CD commercial. For that single ad, over 40 hours of rushes were filmed. (Rush: footage that is shot and produced quickly, often used as a proof version of the final footage).

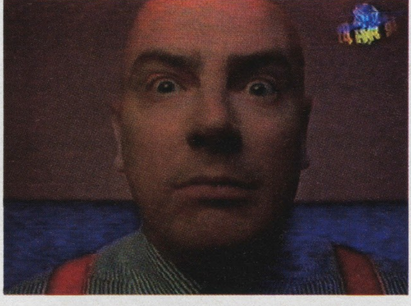
The production costs for this one advertisement alone totalled over a million pounds, according to **Hugh Derrick**, account director of Sega's advertising agency WCRS. (Derrick by the way, actually appears in the *Street Fighter II* commercial and as a flash frame in *Sonic Spinball* as the bald guy – sorry, person of restricted hair).

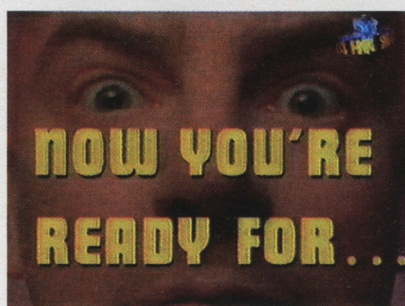
But that one-off expenditure has possibly saved money for Sega in the longterm, as well as giving it a flexibility that other advertisers can only dream of.

'The plan was for Sega to use this material over the rest of the year. So whenever it wanted to advertise a piece of software or hardware it could take pieces of footage, shoot some new links with the Barber and put in some screenshots or whatever,' Derrick explains.

This 'smorgasbord' approach means that new commercials could be produced quickly, with the same flashy production values as the original Mega CD ad, for only £10-25,000 a pop.

Some 40 different ads have already been cobbled together from the original Mega CD rushes, although for a big commercial (such as *Street Fighter II*) Sega will shoot mainly





Hugh Derrick, account director of Sega's advertising agency WCRS, actually puts in an appearance in Sega's Pirate TV ads...

new material.

The Pirate TV format has several consistent strands – like the weather spot, the interview spot, the Skull motif, and the demon Barber himself (real name Steve O'Donnell and currently appearing in Casualty as a porter).

This whole approach means that scripts tend to be vaguer than usual – Derrick describes them as 'shells'. It all somehow holds together because Sega's marketing duo of Philip Ley and Simon Morris know the format and most of the original footage like the back of their hands.

Much of the success of the campaign lies in the 'look and feel' created by the directors and the WCRS creative team of Robin Weeks and Robin Smith. The two Robins have been behind every Sega ad since the agency won the account two years ago: 'They have an image of the Sega brand that is probably clearer in their minds than anybody else's', says Derrick.

Although, given the nature of the Pirate TV campaign, that is not difficult – even Derrick himself admits to being 'confused' by some of the ads.

But he claims that understanding the advertisements is not a major issue because they try to evoke the multi-layered experience of playing a videogame. 'The way young people process information, it's like a sponge soaking everything up. If you ask them 'Did you understand that?' they say 'No', but they can then regurgitate it scene by scene by scene. The average kid's capacity to receive information is totally unbelievable.'

Marketing director **Simon Morris** says that the campaign has been so successful that the original Mega CD ad is approaching mythological status within popular culture.

'It only appeared a few times but people still talk about it,' he claims. 'It's like how everyone says they saw the Sex Pistols at the 100 Club in 1976, or how everyone says they were at Woodstock – if you added up everyone who'd said they'd been there it would be 30 million people.

Likewise, if you stop any kid in the street they'll say they saw that two and a half minute ad, but it's simply not possible.' Well, **Edge** saw it...

CONSPIRACY



The KGB or Committee for State Security was the most feared and pervasive intelligence gathering network in the world.

It literally controlled the lives of Soviet citizens from the cradle to the grave.

The player is cast as GRU captain Maksim Rukov who has been mysteriously transferred to Department P of the KGB Second Directorate in Moscow.

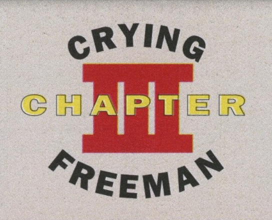
Department P was founded in Perestroika's heyday. Its function was to investigate possible cases of KGB corruption. As the player sets out to discover the murderer of private detective Golitsin, the stench of treachery and deceit becomes more and more overpowering.

Who can he trust?

His dead father. Donald Sutherland is digitised with video and sound and placed in CONSPIRACY's extensive help system for use throughout the game.

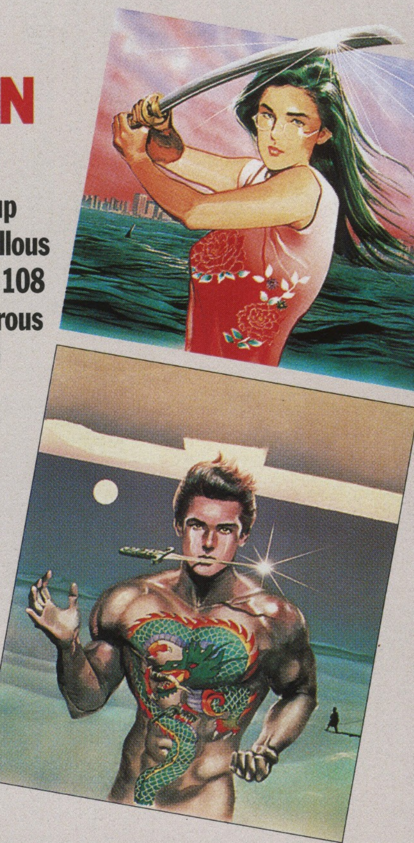
Virgin





RETRIBUTION

Now into Chapter 3 of Crying Freeman. Retribution serves up another ruthless helping of callous killing and naked destiny. The 108 Dragons come under a murderous attack from a gang of political mercenaries known as the African Tusk.
Crying Freeman must revenge the slaughter of his leaders and defend the reputation of the Chinese Mafia.





MANGADACIOUS!

THE RISE OF THE DRAGON



Disaster plagues the construction work carried out to reconstruct Tokyo after the Great Kanto Earthquake of 1923. Kurada, the geologist, warns that blockages are occuring in the seams of the dragon ore - a life force existing within the earth.

Only Keiko Tatsumi, the embodiment of the Goddess of Mercy, can fight the relentless enemy that has disturbed the Masakado's slumber and is now controlling the dragon.









AVAILABLE AT VIRGIN, HMV, WH SMITH, OUR PRICE, VIRGIN GAMES, JOHN MENZIES, GAME LTD, FUTURE ZONE, WOOLWORTH, FORBIDDEN PLANET, BEATTIES OF LONDON/VIRTUAL REALITY AND ALL GOOD VIDEO AND COMIC SHOPS.

A Division of Manga Entertainment Limited.
An Island International Company

Sam And Max Cannon Fodder **Rebel Assault** Crescent Galaxy **Mad Dog McCree** Stellar 7: Draxon's Revenge **Captive II: Liberation** ActRaiser 2 **SubWar 2050...**

Testscreen

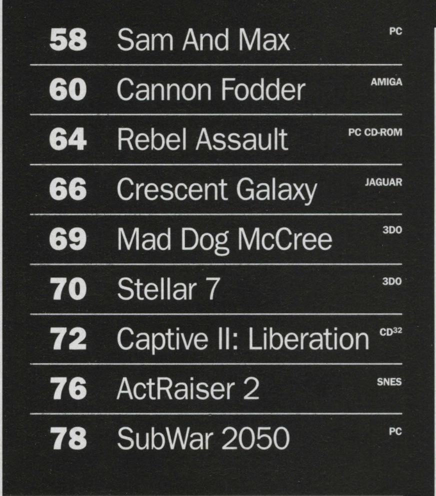
Having ushered in the glorious new era of 32 and 64bit CD gaming technology, **Edge** is now forced to present the current state of the art on those machines: *Stellar 7* and *Mad Dog McCree* on 3DO, plus *Crescent Galaxy* on the Jaguar. While they're both seriously flawed and lacking in gameplay, they also demonstrate the longterm potential of these systems. As soon as the technology is harnessed, we should see some incredible games – but we might have to wait a while yet...

With *Rebel Assault* on PC CD-ROM making an equally tame entrance, it's up to the floppy disk games *Sam And Max* and *Cannon Fodder* to steal all the glory this month. It just goes to show that a little technology is a dangerous thing: flashy graphics, clever cinematics and CD sound can only enhance what is already there: without a solid foundation of gameplay, they're nothing but candyfloss. **E**

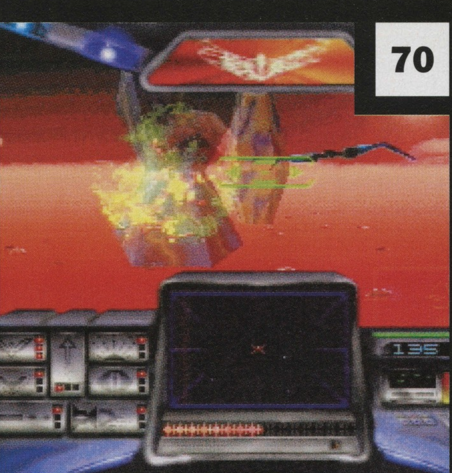
58	Sam And Max	PC
60	Cannon Fodder	AMIGA
64	Rebel Assault	PC CD-ROM
66	Crescent Galaxy	JAGUAR
69	Mad Dog McCree	3DO
70	Stellar 7	3DO
72	Captive II: Liberation	CD32
76	ActRaiser 2	SNES
78	SubWar 2050	PC

69





70

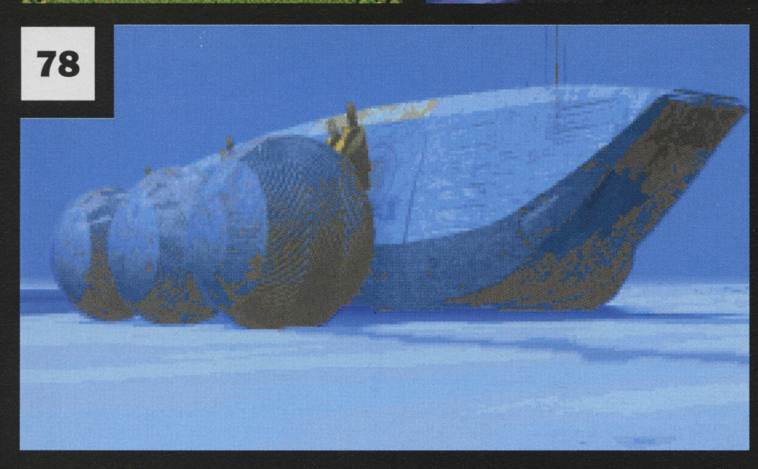


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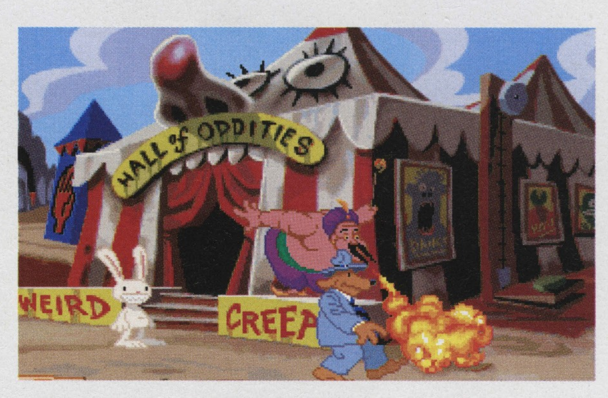
58

Sam & Max
hit the road

Format:	PC
Publisher:	LucasArts
Developer:	In-house
Price:	£43
Size:	7 disks
Release UK:	Out now

In this cynical and corporate world, it's easy to despair at the number of character related games that appear on the market because you know they're just cashing in on the name. But we like to look on the brighter side of life here on **Edge** and so it's with open arms that we welcome our buddies, *Sam & Max*.

This comic book duo are Freelance Police. They take orders from no-one – except their commissioner who provides them with crimes to solve in their own inimitable (violent) fashion.



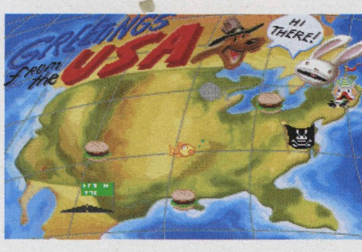
Entering the Kushman Bros fun fair can be a somewhat dangerous activity – but then it's even more perilous *inside*

Anyone who owns or is anyway interested in the world of the PC will know that if you want to play first class adventure games, this is the machine to own. But these days, PC players want more than just a good game; they want some fun as well (a very underrated concept, fun) and with these guys you get more than your fair share.

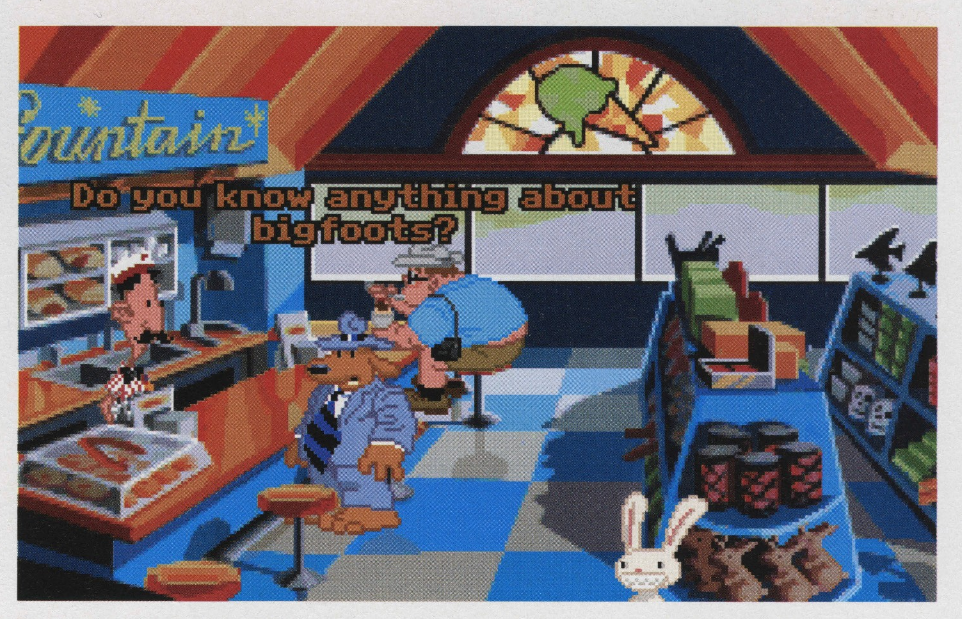
Sam and Max are on the trail of Bruno the Bigfoot who has disappeared from the Kushman Bros fun fair. To solve this mystery, Sam and Max have to collect and use items, and talk to people (or just insult them).

The world in which they work is a bizarre reality twist on our own – and incredibly funny to boot. To make the game less complicated, Sam is the only controllable character, although occasionally you can get Max to do his own – usually destructive – thing.

There are loads of beautifully detailed scenes to explore and intricate puzzles to solve, and it's all up to the LucasArts



Moving from place to place is a doddle: just move the pointer and click. The big Burgers are Snuckey's stores (right)

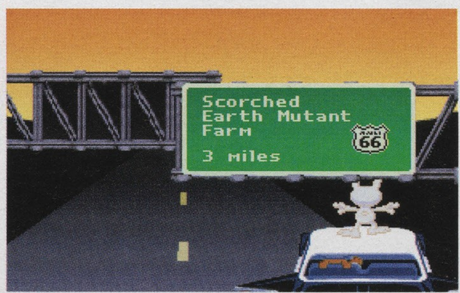


Snuckey's stores contain things you need to complete your task – but poor old Sam and Max possess zero cash, so they're going to have to earn some. Questioning the staff is usually pretty fruitless...

1 Sam and Max arrive at the 'World's Largest Ball Of Twine', and ride the cablecar to the top. 2 There's a tiny fish kitchen beneath the revolving restaurant... 3 And down below, there's a tempting piece of loose twine. 4 Sam and Max look longingly at the string: how can they get to it? 5 At the 'World Of Fish' park, the duo disguise themselves as a giant trout. 6 Having been caught, Sam and Max wait to be picked up... 7 By helicopter and taken to the fish kitchen. 8 Max nibbles through the twine which falls to the ground. 9 Closely followed by Sam and Max to escape the mad chef!

Sub games





At the fun fair, you can play on the 'Wak-A-Rat' (oops! Missed) to win a prize. There's also a driving game in which Max jumps over signs. It has nothing to do with the game itself And a good job too: it's dismal

standard we know and love.

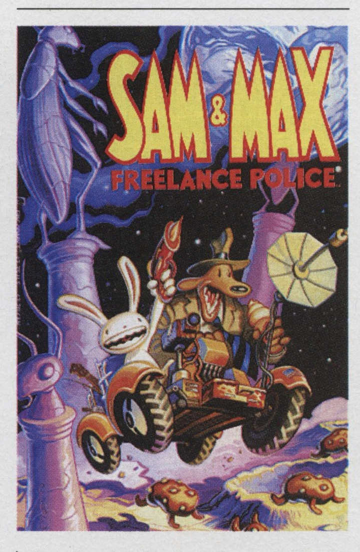
With most adventure games, It's hard to feel anything for the character(s) you control and so you end up trudging through the game in the same logical manner you've done in the past, merely to complete the quest in hand.

Sam & Max is different. It's genuinely funny, and so you find yourself experimenting more than you would normally just to see what the madcap pair will get up to next. **Edge** challenges anyone to play the game and not laugh out loud at least once.

There's plenty of challenge to be had and some of the graphical effects (3D especially) are gorgeous. The puzzles take some real working out and give you that satisfactory 'why-didn't-I-think-of-that-earlier' feeling that adventurers love so much. *Sam & Max* is destined to become a classic.

Edge rating: **Nine**/10

The **comics**



Freelance policemen Sam and Max are the stars of a series of comics from Epic. All the stories are written and drawn by Steve Purcell and really jolly good they are too

Cannon Fodder

Format:	Amiga
Publisher:	Virgin
Developer:	Sensible Software
Price:	£30
Size:	3 disks
Release:	Out now (UK)

There are still some really good reasons for owning an Amiga. For one thing, it's still a machine that manages to hold some of the best game designers in the business. Companies like DMA Design, Bullfrog, and yes, Sensible Software, have created some fabulous 16bit games, and the Amiga is still the platform that first plays host to their innovative software. There must be a god up there somewhere, eh Commodore?

Morally, as the name suggests, *Cannon Fodder* might be advancing on slightly dodgy ground. It's bloodthirsty, violent, and steeped in the war motif, but at the same time the proceedings are surprisingly jolly and benign.

It handles the subject of war in a laconic, tongue in cheek manner with the title song 'War... it's never been so much fun'. Indeed, there's something very engaging about watching a group of cute little soldiers spraying bullets all over the place. And something equally compulsive about watching a group of tiny enemy soldiers scream in pain as those same bullets make contact.

Drawing from such classics as *Ikari Warriors* and more recently, *Syndicate*, *Cannon Fodder* also treads on the toes of an obscure Konami coin-op called *Jackal*, even though the designers claim they've never seen it. The player takes control of a platoon of soldiers and guides them through various terrains, taking out the enemy and blowing up buildings on the way. Like *Jackal*, there are vehicles to command, grenades and rockets to acquire, and this is all handled by a simple control system. Using the left mouse button you simply click on the landscape where you want to go, and fire using the right mouse button. It's precise and intuitive.

And that's what makes the whole thing so

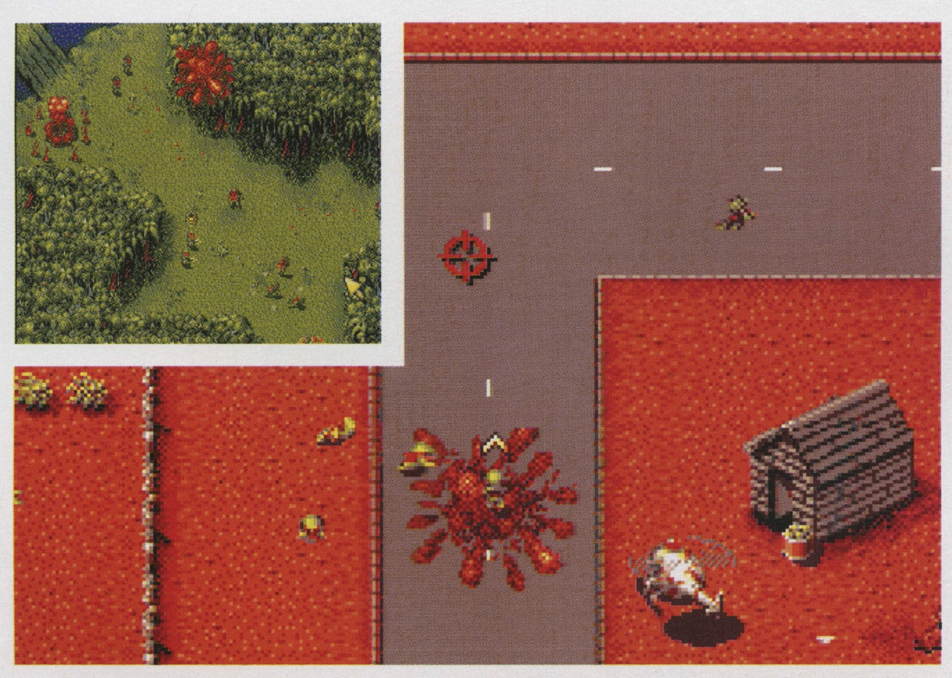


A finely executed ambush is illustrated by the blue splodges (dead enemy soldiers) and red splodges (their insides). Yes, there are no qualms about such things in this little game





The scene-setting parallax scrolling intro (top). Later in the game (above) you'll find some useful accessories. Here, the boys have to decide if it's worth taking the Jeep or the 'copter. That's easy...



'Hooray! Guys, here comes the air ambulance! This chopper's gonna pick us all up and take us back to base camp. Hang on a minute... WOOOSH!... Boooom!... Arrgh!' Even more death and destruction (inset)

enjoyable. While the game never stops playing like a great action shoot 'em up, the underlying mechanics are complex and rewarding. For the first five missions or so, things can be tackled without too much strategy, but after that you'll need to deploy your men in different directions, and take things more slowly. The tactics required for these later missions are considerable and the number of missions (23, divided into 72 phases) make this a formidable challenge. And of course, future mission disks are probably a foregone conclusion. Well, we can only hope.

Presentation in the game is of a consistently high quality, too. The graphics themselves are basic enough, but they still have a charm of their own and the mouse-sensitive smooth scrolling is slick. Sound *is* great, though. There are effects like running water, jungle noises, distant 'copter rotors, etc, and the volume changes depending on where you are. And let's not forget the heart-rending screams of those dying soldiers. And it's worth pointing out that there's absolutely no pleasure to be had in silencing them with a few more bullets. (Honest.)

It's hard to be critical of *Cannon Fodder*. There's so much in here, and yet it's all so accessible and addictive. War is futile, and shouldn't be glorified. Here it isn't, it's just used as a backdrop for a damn fine game. Just don't be surprised to find yourself playing it all night. And then some.

Edge rating: **Nine/**10



'Seen one igloo, seen 'em all.' 'Yeah, let's blow up the other one, too.' Rational human behaviour is often the first thing to go in times of war

Maybe the Jeep wasn't such a good idea. After all, if you want sneak up on the enemy the clunky engine is a dead giveaway. Literally, sometimes

Sensible software

Jon Hare, managing director of Sensible Software, chatted to **Edge** about *Cannon Fodder* and his plans for the future...

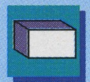


Relax girls, this particular officer and gentleman (ahem) is married

Edge How long did the game take?
JH 'Work began back on *Cannon Fodder* in the August of 1991, so it's taken around two years in full.'
Edge How much of the original design is left in the finished game?
JH 'Initially, we had fairly grandiose plans for the strategic elements, but when it came to the crunch we decided to take a lot of the detail out. For a time, the soldiers had individual skills and you could make certain members do specific things. Now it's just a case of separating the men into groups, or sending them off on their own. As they survive missions their combat skills such as accuracy, range, and rate of fire increase. Because the game's so action-based there wasn't time to control so many other elements and we kept it a bit simpler.'
Edge What formats can we expect to see the game converted onto?
JH 'We're currently converting the game onto the PC and ST with a view to get the game over onto the SNES and Mega Drive, and perhaps a few other machines.'
Edge And *Cannon Fodder 2*?
JH 'Well, I'm not sure really. We're best at making original games and yet we get bogged down with endless conversions which demand a lot of time. I'm not sure about data discs or even the possibility of *Cannon Fodder 2* at the moment.'
Edge Are you still planning to carry on developing for the Amiga?
JH 'Yes, currently we've got *Sensible World Of Soccer* arriving in time for the World Cup, but we've also got another original title in the works for the Amiga. There are three other secret projects in the pipeline. One for PC CD-ROM, one for the SNES, and another for the Mega Drive.'
Edge Thanks Jon.


SECONDARY COMMUNICATION
Knockout character,
punchy graphics
and a seriously
kicking soundtrack.







TERTIARY COMMUNICATION

Ninvolving
Ninto the groove
Nintendo

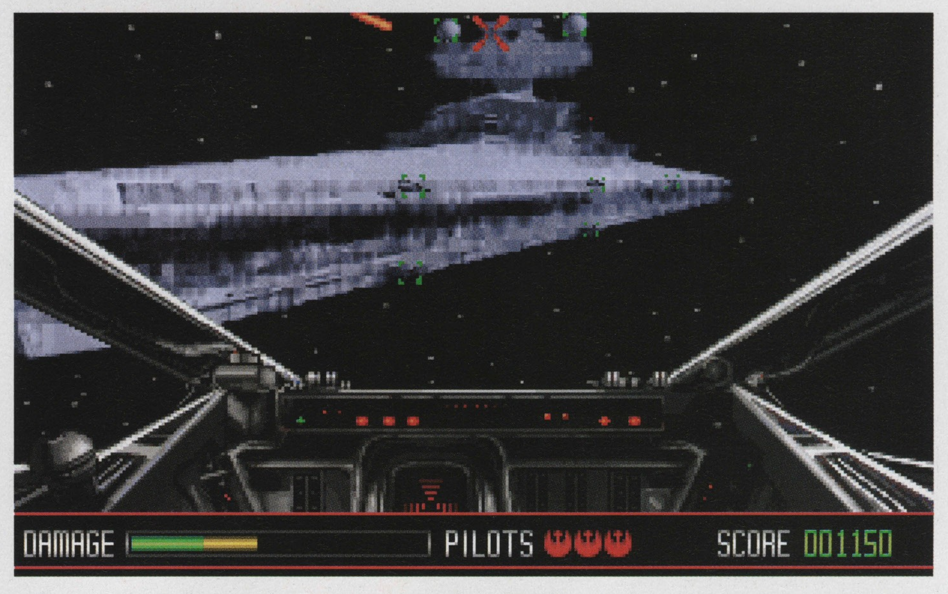
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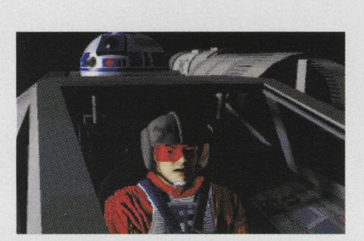
Game around £40

Rebel Assault

Format:	PC CD-ROM
Publisher:	US Gold
Developer:	LucasArts
Price:	£50
Size:	1 CD
Release:	Out now



The beauty of a CD background means you are sent around this ship time and time again, even if there are no guns left to hit. This helpless ride only stops when the two shield generator towers are destroyed









Much of *Rebel Assault's* appeal comes in the shape of luscious intermission sequences, which tie the whole game together

There's something increasingly disconcerting about CD-ROM and its practical use in games. And in many ways, the shortfalls are starting to outweigh the benefits. CD games that couldn't possibly have been done on floppy disc or cartridge, are fast gaining a reputation of being 'all show and no go' and *Rebel Assault*, stripped of all its show, isn't any different.

But you couldn't deny that for creating pure movie-style atmosphere, this is probably more successful than anything that's appeared so far. The introduction is truly outstanding, with some space scenes digitised from the film, and some created from scratch with pre-rendered 3D graphics. The LSO's famous Star Wars score is in there intact, too, the sampled music being a far cry from the usual bumbling sounds that drone out of mid-range soundboards. On booting up, *Rebel Assault* looks like it's going to be something special.



One good missile shot – looking suspiciously like a laser bolt – should finish off this Star Destroyer

It's only when you start playing the thing that CD-ROM finally rears its ugly shiny head. Rather than save video just for the odd scene, LucasArts have jumped on the bandwagon and built the game entirely against a video backdrop. Now that wouldn't matter if the overlaying game was superbly integrated, but it isn't. It's actually a flimsy and unplayable shoot 'em up with few redeeming features.

The ship wobbles around in an uncontrollable manner and there's only one weapon – a laser that pumps out weedy little shots that you'll have an impossibly hard time connecting with the enemy fighters. No power-ups, no torpedoes, nothing.

The next problem is with the video itself. Granted, LucasArts have done a clever job of convincing the player that they're involved with the action – the video display is slightly bigger than the window its shown in, so as the player moves, the screen scrolls accordingly. But it's shame that the quality of the video itself is so mixed. In some scenes – particularly the rendered, non-interactive ones, the quality is



***Rebel Assault* is split up into chapters. Chapter 7 (top left) is a frantic snowspeeder flight through gloomy caverns. Chapter 8 (top right) is a one-sided battle as you destroy impotent AT-ATs. Land the snowspeeder and Rookie 1 enters an Empire-guarded stronghold on foot (middle left and inset). Chapter 9 (middle right) follows Rookie 1's efforts to battle through Stormtroopers in order to find his X-Wing (bottom inset). Back at the controls, Chapter 10 (bottom) is a straightforward dogfight section**

Rebel Assault chapters

Like a LaserDisc movie, *Rebel Assault* is divided into 15 separate 'chapters', which tell the story of Rookie 1 and his fight against the Empire. From T-15 practice runs through Beggar's Canyon on Tatooine to the final trench run in the battle for the Death Star.

The story is represented by three different playing modes, in which you control your ship from behind (or above); target enemy ships in a first-person dogfight; or actually take control of Rookie 1 as he infiltrates the Empire's bases on foot.

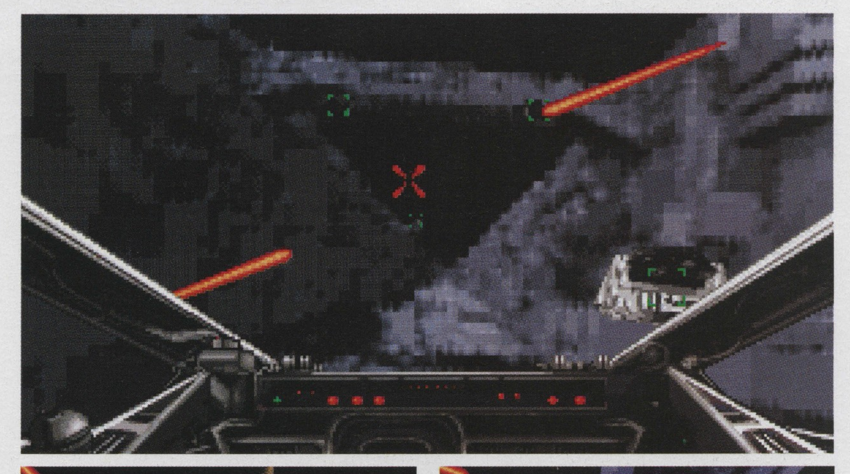
great. The digitised film scenes and ingame backdrops, on the other hand, are all a bit ropy at the best of times. While it's unrealistic to expect superb quality video in software on the PC, the fuzzy ill-defined landscapes aren't that impressive, even if they do move fairly smoothly on 300K/s drives.

The 15 levels and three different difficulty settings certainly combine to make *Rebel Assault* a tough cookie. But the passwords are only issued after completing long sections, which just serves to increase the repetition and provide endless frustration.

LucasArts' previous Star Wars PC game, *X-Wing*, approached things from a simulation perspective, but included a proper 3D environment, and – in bleak contrast – some varied and enjoyable gameplay. *X-Wing* fans are not likely to be over-impressed with this.

Doubtless, some people will be wildly seduced with the movie-style pyrotechnics, and avid Star Wars fans will probably be sold before the intro gets halfway through. However, if it boils down to a toss-up between gameplay and graphics, it's likely the decision will have already been made.

Edge rating: **Five/**10







***Rebel Assault* is all about flying and shooting, so it's a pity the control of ship and weaponry is imprecise to say the least. Targeting with the crosshair is like wrestling a greased eel**

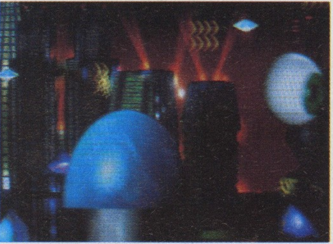
Trevor McFur In Crescent Galaxy

Format:	Jaguar
Publisher:	Atari
Developer:	In-house
Price:	£50
Size:	16 Meg
Release:	Out now



Shoot 'em ups need end of level bosses, and *Crescent Galaxy* has plenty of those. Unfortunately, they're all so two dimensional that they don't really add anything much – nice use of colours though







Although visually impressive, *Crescent Galaxy* is a sad attempt at a horizontally scrolling shooter. Poor game design and weak sound send this title to the bottom of the class. The Jaguar deserves better than this...

Just when you thought the door to the next generation of videogames was beginning to open, along comes *Trevor McFur In Crescent Galaxy*, to slam it firmly shut in your face. Without doubt, the 64bit Atari Jaguar – or 'Jagwarrr' as it's pronounced in the States – is capable of much, much more than this.

Crescent Galaxy may look fabulous in these static screenshots, but what you can't see is the way it plays. Lurking – hiding almost – behind these impressive visuals is one of the weediest shoot 'em ups ever produced. It's so feeble in fact, you end up feeling sorry for it.

So what is it about *Crescent Galaxy* that makes it so bad? Well, the first thing you're going to notice is the sound that accompanies each shot – it's so laughably weak, you'd be forgiven for thinking you've just plugged in your old Atari VCS by mistake.

Also, your ship also has a distinct lack of firepower. Power-ups don't help much and the special weapons aren't, well, special. The levels themselves are all very basic in design, with only two layers of parallax at one time, and the whole game scrolls only horizontally. Nowadays this is barely acceptable on a 16bit machine, never mind a 64bit one.

Crescent Galaxy has some well rendered visuals, especially the bosses, but it's totally let down by its badly implemented gameplay.

If it had more variety in the levels, less random enemies, bigger and more powerful weapons to use, more depth and infinitely better game design, it would have been a great Jaguar release. If only...

Edge rating: **Four**/10

THE CD-ROM WAS CREATED FOR ONE REASON...

Microcosm features the most incredible movie sequences - combining some of the world's most advanced graphics with stunning live action footage.

Breaking new ground, Microcosm is the first game ever to use fractal engine technology, which allows the player full interaction with all the superb graphics created by the system. Play Microcosm and you'll be witnessing some of the most stunning computer graphics and awesome gameplay seen on any system EVER!

PRESS TALK

'A new era in gaming and the way ahead for CD.'
'This is THE way forward.'
'This could be the start of something new and very big.'
MEGA DRIVE

'The future today...'
'Quite unbelievable.'
THE ONE

Screenstar Award
CU AMIGA CD32

91% MEGADRIVE ADVANCED GAMING
plus cover mount

90% MEGA POWER



NO ONE IS IMMUNE.



Mad Dog McCree

Format:	3DO
Publisher:	American Laser Games
Developer:	In-house
Price:	£50 (import)
Size:	1 CD
Release:	Out now (US)





This is it; the big shoot-out. It's just you and him in a fast draw contest to the death (left). Sadly, he's got a six-shooter while you've got an uncontrollable joypad. The outcome is depressingly predictable (right)

Anyone who's ever put money into a *Mad Dog McCree* arcade machine will know what it's all about. Watch a bit of video, pull the trigger, watch some more video and pull the trigger again. It's good fun for the first few goes, but after that it all gets terribly repetitive. It's a ten minute wonder.

And the 3DO version is instantly knackered in a number of departments. For a start, there's no gun. Quite unbelievable isn't it? A light gun game operated by a joypad. It's like playing tennis with a cricket bat. To help out you can hold down a choice of buttons to speed up the movement of the cursor.

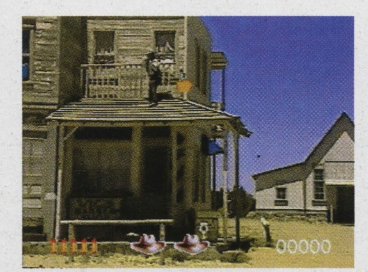
Even worse, later in the game there are ridiculous moments when you have to move the cursor the entire width of the screen and position it over a distant figure the size of an ant. Throw in some ropy collision detection and you'll get just how clumsy this is.

But it doesn't stop there. When you shoot someone in the arcade version, the delay where the LaserDisc pick-up switches to a new track isn't that noticeable. On 3DO, the clunky CD drive just isn't cut out for it.

The bottle shooting section is a laughable case in point – the glass smashes about two seconds after you position your gun over it and press fire. And if the outcome animations had been pre-stored into the 3DO's RAM, the loading times would have probably been horrendous for each scene, slowing the game down to a virtual standstill. And it's difficult to see any kind of solution.

'Don't buy *Mad Dog McCree*' seems the logical conclusion. The CinePak video quality is tolerable but once the trickier bits are reached, you'll be yanking your hair out in big clumps and shouting at the screen. And then you'll probably stop playing it.

Edge rating: **Three/**10

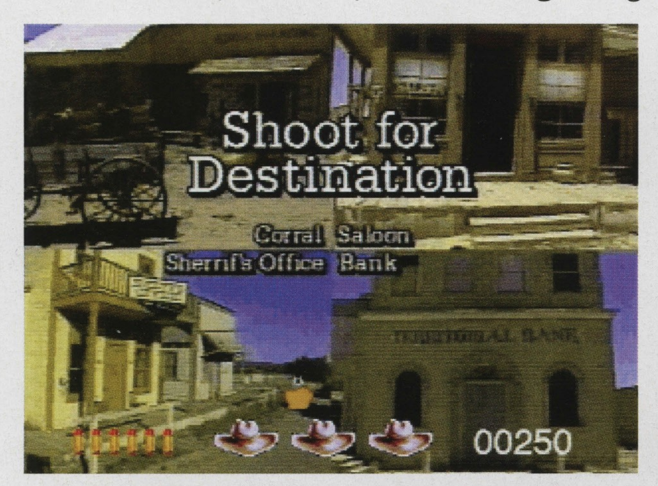








(From top) This sequence shows the felling of 'Vertigo' Jake – the baddest window cleaner in town





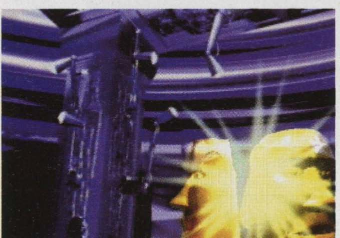


You have a choice of four locations to start from (main). Head for the bank to defeat some desperadoes (top right), or mosey on down to the saloon (bottom right) and waste the local Bridge club...

Stellar 7
Draxon's Revenge

Format:	3DO
Publisher:	Dynamix
Developer:	In house
Price:	£55
Size:	1 CD
Release:	Out now (US)

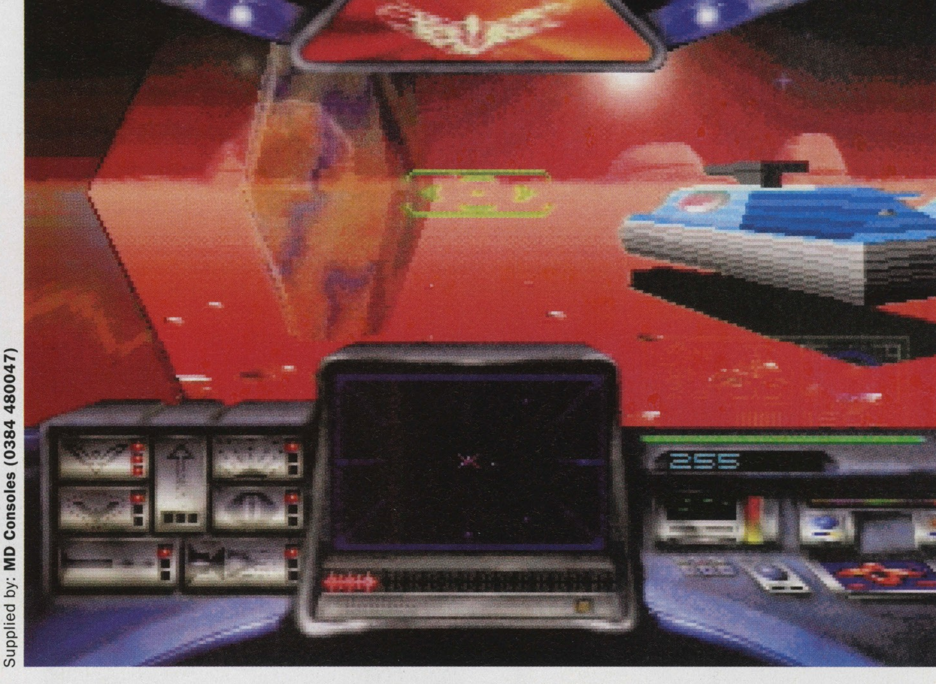








A brilliant cinematic opening sequence. Draxon's ship swoops through space after deploying all his minions. As some compensation for the gameplay, *Stellar 7* has some of the best music yet heard on the 3DO



Supplied by: **MD Consoles (0384 480047)**

A rare action-packed moment, a blocky looking Hover Craft looms into view. That transparent ray-traced object represents the best visual effect this game has to offer, sadly interaction with it is limited

So there you both are – you and your new 3DO machine – sitting and waiting, waiting for the title that will bring relief to both you and your bank manager. A game that will literally jump around the place screaming 'I'm the best thing you've ever seen'. In fairness, it's an unenviable task for any software company to have to produce such a game, but the 3DO's success may well be dependant on it.

Having already gasped at the sheer beauty of *Crash 'n Burn* and chuckled at the woefully inadequate *Mad Dog McCree*, you're thinking the 3DO scene is looking, well – let's just say the words 'uncertain' and 'erratic' spring to mind. And the newest addition to the range, Dynamix's *Stellar 7*, tries hard to impress, but ultimately fails.

Now, before this there were only two roads 3DO software could go down: either *Crash 'n Burn*'s 'highway' or *Mad Dog McCree*'s 'cul de sac'. But *Stellar 7* doesn't go down either, instead, this one's on the road to 'mediocre city'. It's not that *Stellar 7* is a bad game, its just that it's so ordinary. It looks fine and sounds okay, but playing it is quite uneventful. Remember *BattleZone*? Well this is a *BattleZone* clone, and not a particularly outstanding one at that.

You've been sent out to defend Earth



You radar must be used to track down the enemy, or you'll be sitting watching nothing...





Enemy vehicles

It's obvious that a lot of time went into making *Stellar 7* look good. If only the designers spent the same amount of time designing more interesting gameplay, then *Stellar 7* could have been the best 3DO game

Enemy Vehicles

As with most CD games, the presentation in *Stellar 7* is good. Before you start the game proper, information on Draxon's Armada can be viewed. Similar to the weapons select screen in *Crash 'n Burn*, all the vehicles rotate on their axis and your view can be zoomed in and out. These images are all beautifully rendered and texture-mapped and actually look better here than they do in the game.





Level one

The Raven's cloaking device in action (top), and here's the first end of level guardian (bottom)...



You won't need a radar to locate this Sand Sled, it appears the moment the game starts. Your radar is situated in the centre of your control panel, and the icons to the left are your weapons

against the evil Gir Draxon, Overlord of the Arcturan Empire, and his death cruisers. To make this task a little easier, you've been given the most sophisticated and powerful all-terrain fighting machine ever made: the Raven. Piloting the Raven is quite easy and after destroying all the enemy on one level, that level's boss is released – and so on through seven different worlds.

Some of the graphical effects are quite good – especially the transparent obstacles, but there's no real depth to them. The backgrounds stay just were they are, you don't at any stage drive through them. If it wasn't for the stony floor and the odd obstacle, there'd be almost no feeling of motion whatsoever.

One of the most essential ingredients, strategy, sadly seems to have been totally overlooked. Attempts to stalk your enemy often end up in a mindless shoot out. This would be acceptable if the action was consistent, but it's not.

Your Raven also comes equipped with some impressive weapons, but they don't seem to be integral to the game. For example the jump facility looks quite impressive when used, but there's no purpose for it: there are no chasms to jump, no holes to avoid, so why did they bother? So much more could have been made of this. A flying section maybe, more land detail, bigger meaner bosses...

It's a shame that the first 3DO software is such a mixed bunch, but sadly *Stellar 7* is an easily forgettable experience.

Edge rating: **Five**/10

Captive II: Liberation

Format:	Amiga CD^{32}
Publisher:	Mindscape
Developer:	In-house
Price:	£35
Size:	1 CD
Release:	Out now (UK)



A typical interior; there are over 50 megabytes of pre-rendered graphics stored on the disc



Our intrepid team of robots encounter a police car. You'll find several such vehicles out 'on the beat'

Let's get this straight. This is not the CD^{32}'s 'killer app'. It is, however, one of the most remarkable games of the year, and just might herald the true dawn of the CD as the games medium of the future.

The killer application will be the piece of software that can knock you dead from behind a shop window. *MacPaint* was one such revolutionary product, *Sonic The Hedgehog* another. With the solitary mouse button, or the single jump move, each was instantly accessible, and immediately loveable.

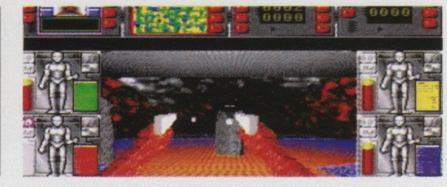
Liberation is an extraordinarily complex firstperson perspective graphical adventure, with a front end that appears baffling rather than seductive. The graphics, in their small 'window on the world', just about manage to convey all the information required of them, rather than making your jaw drop with their detail or speed. On the surface, it plays like any graphical adventure you've already seen;



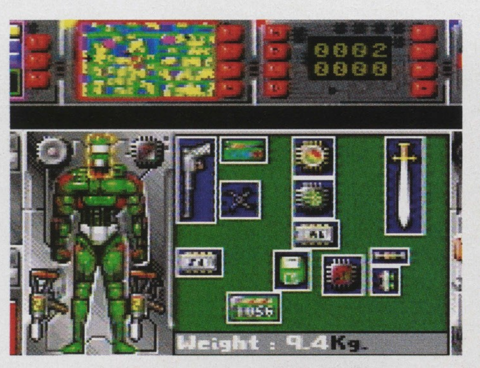
Most of the puzzles require you to locate an informant, and mapping computers often help



This is how you'll start the game proper. The object on the right should give you directions



An inhabitant of the lower levels; violence is the only language they understand









The droids

Each android carries a backpack (top left), full damage monitoring (top right), a video preferences device enabling you to change the screen layout (bottom left) and a power control interface (bottom right)

The **droids**

It's in the innovative use of the four droids as your eyes, ears, arms and indeed legs that *Liberation* really shows its depth and attention to detail. Usually travelling together (either on foot or by taxi), the group can split up, and you can switch your viewpoint between the four pairs of eyes. Electronic devices, each with their own feedback display, can be fitted to each robot – a bug, for example, which can be attached to a wall, character or vehicle and monitored from any distance – and numerous upgrades can be purchased, from codebreaking circuits and improved limbs to a frightening variety of weapons, each accepting several different types of ammunition.

you move around, you find keys and you occasionally engage in combat. These are the reasons why it is not, in itself, the program that will ensure the success of the CD32.

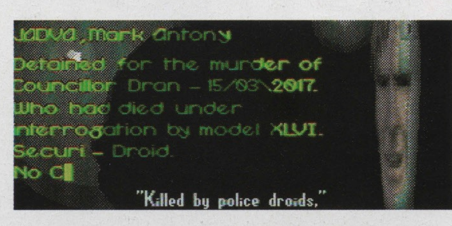
Anyone who takes the time to learn how to use the very tricky controls, though (a mouse makes the game immeasurably easier to play), will be rewarded with a game whose depth and polish makes other CD titles seem little more than cheap gimmicks.

Every aspect of CD technology has been mobilised and packed onto one disc, but well thought-out design has kept access times to a welcome minimum. The opening animation is the most impressive introduction so far produced, with sound and graphics working together to finally give us hint of what 32bit technology is capable of.

Do not be deceived by these atmospheric additions; beneath them lies not, as you would expect, a poor and rudimentary game, but an adventure to satisfy even the most demanding of roleplayers. 4,000 separate environments are packed with complex characters, plenty to explore and an infinite number of ways to approach each mission, as the computer adapts its responses to fit your style of play.

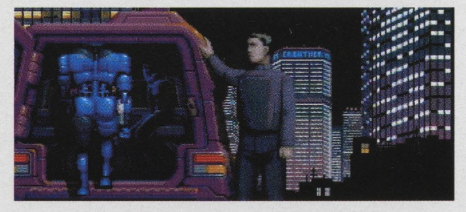
This is a fitting end to a year full of promises, of 'next generation' claims. Perhaps 1994 will be the year we start to see some results emerging from the hype, and if *Liberation* is anything to go by, we have a very exciting ride ahead of us.

Edge rating: **Eight/**10









Excerpts from the animated intro, as Trill and his droids begin to unearth a sinister conspiracy

The **story** so far

Only loosely connected to *Captive*, its nominal prequel, *Liberation* casts you once more as Trill, now free, with a group of four androids at his command. Having discovered a plot to frame innocent people to cover up murders commited by defective security robots, it is Trill's task to liberate the scapegoats and expose the conspiracy. His four androids roam the city looking for clues, trying to avoid the police, and operating through a two-way relay to Trill's briefcase computer. Once a captive has been freed, another cityscape, with completely different buildings and streetnames, must be explored, and another injustice righted.

1994

Read all about it!

Actraiser 2

Format:	SNES
Publisher:	Enix
Developer:	Quintet
Price:	£65
Size:	12 Meg
Release:	Out now (Jap)



Sunlight bursts through the clouds (main) as an orchestra plays – but this is just the intro. The Mode 7 map from the original has made it into the sequel (inset)





Unlike the controls, the first level is fairly straightforward. Here woodland beasts try to stop you...

Actraiser is considered by many to be one of the most impressive games ever released on the SNES, a fact made all the more extraordinary when you realise that it was also one of the first games released for that machine. Magically blending arcade action with some strategic sections, it was both innovative and very challenging. Oh, and it also had one of the most impressive music scores ever written for a videogame.

Three years on, Quintet present us with their much-anticipated sequel. But sadly it seems that the pressure of producing a game of equal quality has seriously hindered their creative abilities. Now we all know that the arcade sections in the original were good, but were they really good enough to make up the entire sequel? Some of you may reckon this is a great idea, but just think about it ... Level after sprawling level of baddies, followed by the obligatory boss – sounds familiar? Too right, and that's the major problem.

Whereas in the original the frantic platform action was broken up with the calm and sedate *Populous*-like sections, here the action's non stop. And although that may sound like a good thing, it's not. Plain and simple – it just does what a hundred other SNES platformers do.

Had there been some twist on the theme, or an innovation of some kind, then it would have been great – but there's nothing. And nothing comes of nothing, as that wise old guy Shakespeare once said.

Without wanting to sound too damning, the graphics are quite nice, with some very impressive sections – some levels have up to three layers of parallax – and the bosses are fairly well designed. We all know that the original had some brilliant music and there are some great tunes in *Actraiser 2*, still they're not quite in the same league as the originals.

But the worst feature of the whole game has to be its control method. It's very, very dodgy. One press of the fire button will send your character soaring into the air and another press will send him into a downward dive. Now, this may sound great in theory but it's

Level two





The first level is just a walk in the park compared to the weird and hideous creatures you find in level two. For the first time your flying abilities (main) are called upon – and this vertically moving section (top right) is very nasty. The final guardian (below right) bizarrely decreases in size when hit

Actraiser levels

All the levels in *Actraiser 2* are either horizontally or vertically scrolling platform romps. Spread across a large playfield the levels are fairly straightforward, but the game's clumsy control method makes them difficult to negotiate. Most of them require you to get airborne – though this in itself isn't a real problem. But finding a way to stop yourself in mid air to land on the right platform is...





Level three



The moment you enter the third level, the webs make it pretty apparent that there's a huge spider lurking in here somewhere. And there's more besides...

Special weapons

The only innovative feature of the whole game is the way the special weapons are accessed. Holding down the fire button for a short time will enable your character to release one of four special weapons. Depending on the direction you have the joypad pressed at that time determines what weapon is released. Clever eh?

an entirely different matter when put into practice, especially when you only want to cross a small gap. A small jump can often turn into a drifting flight to the other side of the screen – not a good thing when there are hordes of enemy awaiting your landing. No matter how hard you try to get to grips with the control system, you'll still get the feeling that your making 'leaps of faith' rather than carefully judged, skillful platform pounces.

Many people will undoubtedly be impressed with the sound and the graphical content but underneath it all lies a fairly simple, albeit difficult game to play. It's a real shame, isn't it? Potentially one of the biggest games of the year reduced to just a simple platform hack 'em up... E

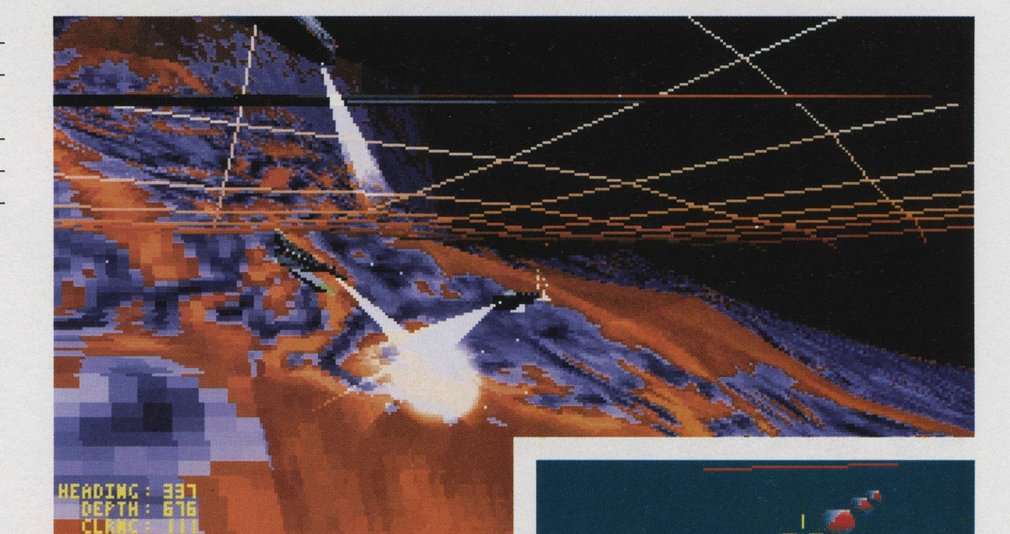
Edge rating: **Five**/10



The third level is full of beautiful parallax. Up to three layers can be seen at one time and there's no slowdown. But overall *Actraiser 2*'s a bit of an oddity. The original came on a 6 Meg cart, the inferior sequel strangely enough comes on a 12 Meg cart, but with relatively no depth

SubWar 2050

Format: PC
Publisher: MicroProse
Developer: Particle Systems
Price: £45
Size: 5 disks
Release: Out now (UK)



There's a wide range of views: full-screen 3D, cockpit, cockpit, chase, weapon, tactical, current contact and flypast (shown here)

The combat simulator helps you learn the basics of manoeuvering your craft, targeting weapons and racking up huge points scores

All submarine simulations have the same fundamental problem: you can't see very far when you're underwater. Flight and ground-based simulations have landscapes stretching to the horizon, packed with easily recognisable features such as mountains, rivers and buildings. Life under the ocean wave is different: apart from rocks, all you can see is sea.

It's a problem that *SubWar 2050* does its best to overcome, with impressive, colourful, texture-mapped seascapes and a huge variety of undersea buildings, craft and creatures.



Using your viewing panel, you can see the damage status of your ship (top), or you can access a reference library of other ships and stations from your sub's memory banks



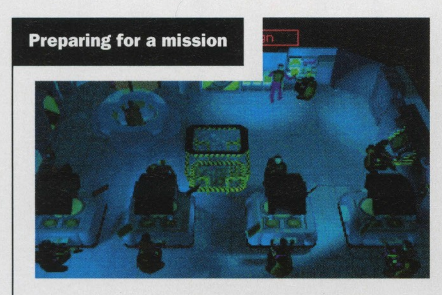
All the missions are preceded by a very impressive, but very brief, animated intro

Even so, most of your time playing *SubWar 2050* you will struggle to see anything more interesting than the odd fish (or 'bio' as your targeting computer calls them) and seemingly endless shades of blue-grey.

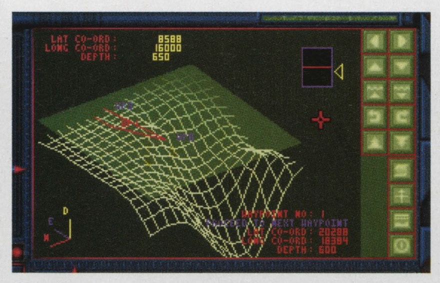
As you've no doubt guessed from the title, the action is set in the middle of the next century. Marine technology has advanced to include activities such as farming and mining – lucrative business ventures which rival corporations are determined to protect at all costs. You play an independent mercenary sub pilot, basically earning cash by sending rivals to Davy Jones' Locker.

All the traditional simulation elements are included, from pilot rosters, through training missions, briefings and arming screens, to actually taking on the wide (and interesting) variety of assignments on offer. There are four main theatres of war, and Particle Systems have made a good attempt to distinguish

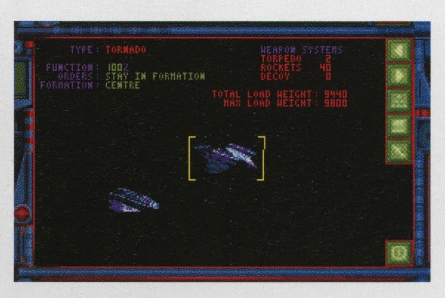
Preparing for a mission



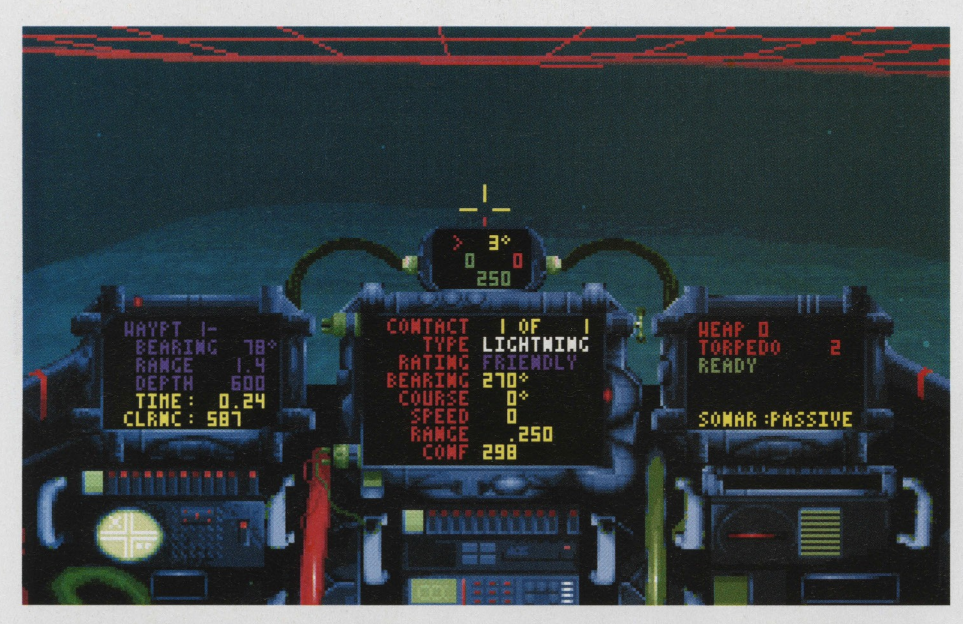
The Command Centre: configure your sub, train in the combat simulator, see the mission briefing or start a new campaign...



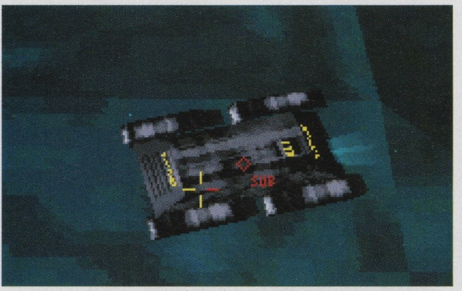
Now it's time to tackle one of the simpler missions. The mission briefing has all the details, including this 3D map



Using 'Configure', you can alter formations and orders, and select appropriate weaponry for the coming mission – but precious little else







Mission starts

The mission begins: your task is to destroy a group of four mining vessels owned by a rival company. The wireframe grid (top) shows the thermal layer – useful for reflecting your sonar. The enemy subs are easy to track down (bottom left), but you should get them up close (bottom right) before launching torpedoes

them all visually and thematically. Geographically, you can choose missions in the North Atlantic, the Antarctic, the South China Seas and the Sea of Japan.

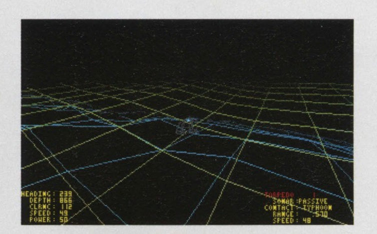
It might all seem a little dull at first – no, let's be honest, it's very dull at first – but the understated sound effects, good use of light and shade, and the very subtle texture-mapped landscapes draw you slowly into the undersea world they create. It's not so much a world of constant visual wonders, as one where you are suddenly impressed by a surprise attack or a new feature.

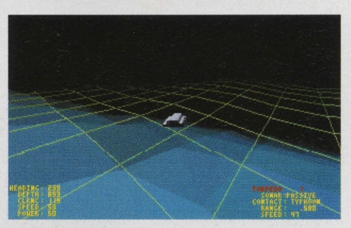
Once you have grown used to the stealth and subtlety of play, the action in *SubWar 2050* is gripping. It's neither consistently impressive nor is it very complex, but the mood it creates is unique. For that reason alone it deserves your attention.

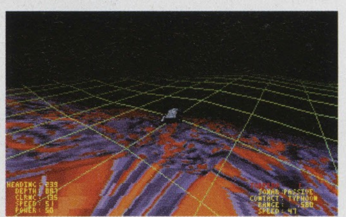
Edge rating: **Seven/**10

Viewing modes

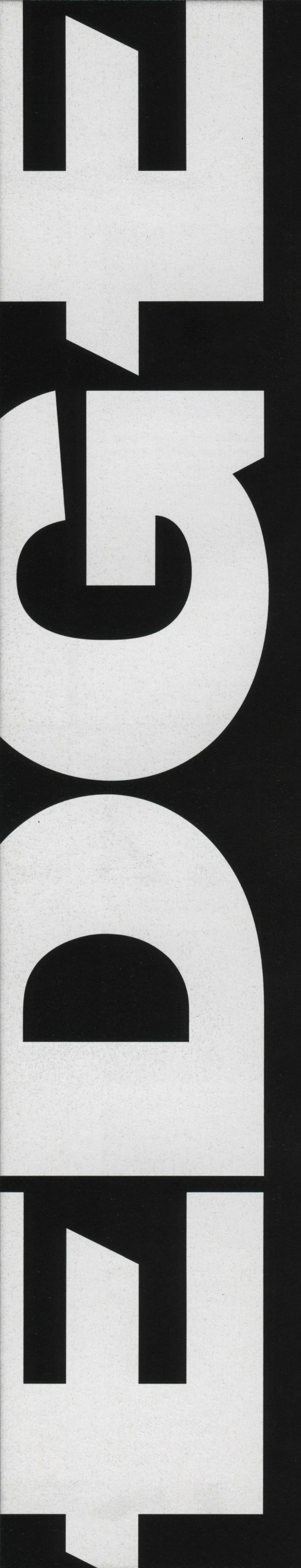
In *SubWar 2050* the underwater seascape is viewable in three modes – texture-mapped (as in the screenshots here), wireframe or with blocky polygons. You'll need a DX2 running at 66MHz to get the best results with the texture-mapped mode, and if you've got anything slower than a 33MHz you're in for a jerky ride.







Wireframe mode is very basic (top), polygons don't look bad, but the texture-mapping (bottom) is best...



Recommended **reading**

In which we preview a few of


Game featured: ActRaiser 2

Magazine: **Super Play**

Format: **Super Nintendo**

Price: **£2.50**

'**February's issue** of Super Play examines the US view of the SNES. We talk to American publishers, take apart American games and try to find out why they see things differently. And as if that wasn't enough, we do exactly the same thing to the Japanese market. We also explain how to wire your SNES to your hi-fi to get stunning cinema-quality sound as you play. Reviews include *Young Merlin*, *Super R-Type III*, **ActRaiser 2** and *Tourneco's Great Adventure*. Also, watch out for our definitive *Zombies Ate My Neighbours* guide, our even more definitive *Equinox* guide and our stunningly definitive *Super Empire Strikes Back* guide. February's Super Play. Out on the 6th of January. Follow the Rising Sun.'

James Leach, Editor


Game featured: Chaos Engine

Magazine: **Game Zone**

Format: **SNES**

Price: **£2.50**

'**The classic** computer gunfight, **Chaos Engine**, is coming to the SNES – but will it be able to hold its own? Game Zone takes an in-depth look at the Bitmap Brothers' latest game. Backing up this massive four page preview are features for all console owners. We look at the new cut price NES and take a peek at all the new games machines – 3DO, Jaguar, Mega CD, Sega Saturn and more – to figure out just which ones serious gamesplayers should take seriously. With reviews of *Super Empire Strikes Back*, *Cool Spot*, *Turtles Tournament Fighters*, *Aladdin*, *Sensible Soccer*, *Flashback*, *Daffy Duck*, *F1 Pole Position*, *Legend Of The Mystical Ninja* and *The Lawnmower Man*, along with previews of *R-Type III*, *Alfred Chicken*, *Brett Hull's Ice Hockey*, *Run Sabre*, *Zool*, *Young Merlin* and *Clayfighter* this a magazine that SNES owners just dare not ignore.'

Trenton Webb, Editor



Game featured: Lost Vikings

Magazine: **Sega Power**

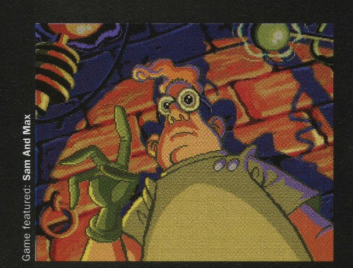
Format: **Sega**

Price: **£2.50**

'**With the** January edition Sega Power celebrate their 50th Anniversary, piling an unprecedented number of top Sega reviews, previews and thousands of pounds worth of competitions into a 148 page issue. Where else could you expect to find the lowdown on **Lost Vikings**, Robotnik's *Mean Bean Machine*, *Dune 2*, and Sonic's all new Game Gear outing? What other magazine would give you the chance to win a Sonic outfit? And who else could serve up such comprehensive playing guides for *Street Fighter II* and *Aladdin*. What's more, the latest issue of Sega Power comes with a free 100 page tips book, a massive *Jungle Book/Cool Spot* poster, and – ooh – billions of other smart games stuff we just haven't got the time or space to tell you about…'

Mark Ramshaw, Editor

the other Future videogame magazines



Game featured: Sam And Max

Magazine: **PC Format**

Format: **PC**

Price: **£3.95**

Stormers like *Monkey Island* and *Day of the Tentacle* made LucasArts the best graphic adventure-creators this side of the known universe. Now the eagerly-anticipated **Sam And Max** is here and we've got the definitive review. We're telling you all about the game, looking at future LucasArts games and reporting on some of the background facts – for instance, how long do you think it took to create the cartoon graphics? Also, hold your breath for reviews of *Indy Car Racing*, *TFX* and *Beneath A Steel Sky*. Just to prove that this Christmas belongs to LucasArts, they've gone and released *Rebel Assault*, the follow-up to *X-Wing*. We're also looking at how you can upgrade your PC to get the ultimate games machine. Get to your newsagent now.

Mark Higham, Editor



Game featured: Terminator CD

Magazine: **Mega**

Format: **Mega Drive**

Price: **£2.50**

So what's going to make you part with Christmas dosh when it comes to magazines this month? Well, if you've got any sense and a Mega Drive it should be issue 16 of Mega. On the game front we've got an exclusive review of **Terminator CD** and all the new official and import games as well – but it's our Top Ten Games of 1993 you really want to know about. And because we're coming to the end of the year we've been talking to all the major third party publishers to not only find out what they think is going to happen in 1994, but what games they've got hidden up their corporate sleeves. Then on top of that we've got the first part of our *Landstalker* solution, loads of tips and all the other regular bit of Mega you've come to know and love. So don't forget, issue 16 of Mega, buy it. Before someone else does.

Andy Dyer, Editor



Game featured: T2 Arcade Game

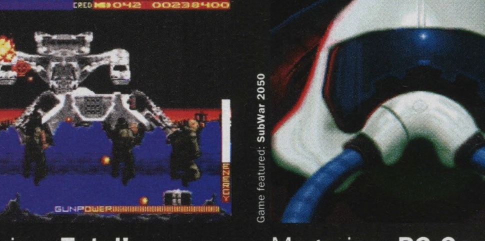
Magazine: **Total!**

Format: **All Nintendo**

Price: **£2.50**

The January issue of Total! features Disney's *Aladdin*, the stunning Capcom game of the movie. We take a long hard look at the game and come up with a couple of surprising conclusions. We also take a sneak look at two biggies from Virgin, *Dragon - The Bruce Lee Story* and *Demolition Man*. Both promise fast action and smart graphics. We also have a rib-tickling review of Sunsoft's *Daffy Duck*, Acclaim's **T2 Arcade Game** (the best Super Scope title so far) and the eagerly awaited *Sensible Soccer*. We'll also be exposing some red-hot news stories, previewing the grooviest upcoming titles and having a bit of a laugh at the same time. If you want to join us, the issue can be found at your local news emporium, on or around the 16th of December. Oh, and have a happy Christmas from all of us here at Total!.

Frank O' Connor, Editor



Game featured: SubWar 2050

Magazine: **PC Gamer**

Format: **PC**

Price: **£3.95**

It's out with the old, in with the new this issue as PC Gamer looks forward to the brave new year to come. To be specific, it's Giant 1994 Preview time, as we bring you behind the scenes info of over 50 of the hottest new games. Whether it's LucasArts' *TIE Fighter* or Origin's *Flying Circus* you're into, you'll find the full, story here. Also we've got a reviews extravaganza, starring things like Microprose's **SubWar 2050**, Sierra's *Aces Over Europe*, Domark's *Flight Sim Toolkit*, LucasArts' Rebel Assault, and EA's *The Labyrinth Of Time*. Add to that a look at getting the best from shareware games, a guide to soundcards, Scoop previews of games like *Pacific Strike* and *Delta V*, and a player's guide to *Shadowcaster* and you're talking one seriously unmissable PC games magazine. To top it all off we've got a high-density disk featuring a stunning demo of Virgin's new *Terminator: Rampage*.

Matt Bielby, Editor



Photographs: Adrian Ford

David Braben – his first game, *Elite*, sold 750,000 copies and set him up for life. And he has spent the last five years programming the sequel, *Frontier*. Edge met him at his Cambridge home...

An audience with: David Braben

Master programmer, and *Elite* creator, David Braben, meets **Edge...**

Once more an **Edge** reader is hastened into the presence of a top game creator, as this month Martin R Wilson meets David Braben. There can't be a being in the whole solar system who hasn't played *Elite* on some platform or other. The game is simply one of the most enduring classics of the computing age.

You will recall that in **Edge** three we said if anyone had any questions for David Braben we'd give them the chance to ask them to the *Elite*-meister in person. The best questions came from Martin Wilson, a 29 yearold gamer from Somerset.

David Braben has a house in Cambridge, a wife, two cats, a handful of tropical fish, a Yamaha Dolby Surround processor, and two large terrapins in a tank in his front room. On the computing side he has an Amiga 4000, 2000, 1000, Atari ST 1040 with 4Mb or RAM, and 'an Atari Hard Disk which propels itself across the desk unless there's a monitor on top of it'. He also has an Archimedes A440, and even a prototype Archimedes he got from Acorn (codenamed the A500), plus a selection of PCs including his main 486 66MHz and a laptop 386 25MHz. Right then, tea and coffee sorted, let's jump into the fray...

Words by **Edge**
Questions by **Martin R Wilson**
Answers by **David Braben**

Martin Where did you get the idea for *Elite* from?

David Braben A very long time ago I wanted to do a 3D space game, and I started doing one on the Acorn Atom. Just messing around really, because I discovered you could draw lines very quickly so you could do 3D very easily. Then I met Ian Bell, and it ended up a joint project. The trading was added as a justification for it.

Martin Can you pinpoint any outside influence which pushed you into doing a 3D space game – like for example those Star Wars videos on your shelf?

David It's things like that and science fiction books. Mostly I wanted to do 3D because nobody had done it. And space is the easiest field to apply it to.

Martin With a land-based game you do lots of X and Y but not much Z...

David Yes. We had great fun doing *Elite*. I suppose the sequel *Frontier* was a logical thing to do at some point. To flesh out what we didn't finish in the first one. I never wanted to call it *Elite II*, but it was suggested it would be a good idea for marketing reasons – which is a shame because it's a bit tacky just hanging a

number off of something.

I imagine for future versions we'll probably drop that. They're a way off yet, we haven't even started doing them.

Martin What was your background in programming?

David I got into it as a hobby while I was still at school. I did a degree – physics at Cambridge – and specialised in electronics. Then I wanted to do a PhD in computing. But they didn't want me to because I didn't have any computing qualifications, so I spent one year doing a computer science diploma, but then decided I didn't want to do a computer science degree anyway. We wrote *Elite* while we were at University, and that was the hobby. Then it switched round and University became the hobby.

Martin How's *Frontier* been selling?

David It's been going really well. It was a shame that the US release wasn't simultaneous, as it could have been. It's always a problem distributing over there. Also Gametek US is fairly separate as a company, and getting it printed in the US takes ten times longer than in the Europe.

Martin Are initial US print runs bigger?

David I get the impression that they're smaller. Typical computer people don't follow the magazines so much. Gametek reckon that PC people are slightly less aware of the magazines on average than Amiga people.

Martin Did you actually write the Amiga version?

David I did, yes.

Martin And someone else is converting the PC one?

David Chris Sawyer did the PC version.



Martin Wilson, Amiga and PC owner, and Edge's interviewer for the day



Martin: 'The Amiga version of *Frontier* is quite jerky and slow in places. Do you think it would be faster if you used line vectors instead of polygons?' David: 'Yes... but it would be unworkable'.

Up in Scotland. Most of the data is the same on both machines, so that's why the PC version caught up so quickly. As soon as the data was done for the Amiga we just transferred it straight over to the PC. The PC version was completed a matter of days later than the Amiga version.

Martin What about the ST version, why are you doing that, what with it being a declining market?

David Well, because one of the surefire ways of making it decline is by not supporting it! The advance orders are quite good, I'm surprised. Like tens of thousands, not hundreds. It's not that difficult a machine to support. It's actually quite a lot like the Amiga internally. Especially since this is such a long project. Five years ago, who could've told which would survive?

Martin Any real differences between the ST and the Amiga version?

David Not especially, no. There are certain things in the ST version which are not in the other versions because they're not needed. Like a lot of the early STs only do 512 colours, maximum, but the game internally uses a lot more. So there is an option on the preferences screen to simulate 4,096 colours by doing adjacent shades on consecutive Vertical Blanks. Given that I'd written the code I'm damn well going to use it! What I'll do is see how it sells on the ST and if it's rubbish I'll probably not bother in the future.

Martin Are there any updates to the software, is that still going to happen?

David Oh yes, definitely. Hopefully new versions of the game which will either be whole new games or add-on modules. The way I see *Frontier* is as a really good platform for doing science fiction adventures. If you like, this is just the basic game. Certainly I always have lots of mission ideas. But what I'd like to do is take advantage of other machines, and probably do something for the CD32.

Martin How will the CD32 version be extended? Extra music?

David Probably. I'll look into that.

Martin Because really the beauty of *Frontier* is it's so compact, you could fit it on CD 1,000 times…

David I guess we'll use it for extra music and extra sequences, because the problem with disc-based games is seek times. Unless you've got a really linear game it's almost impossible to eliminate the seek time because it's up to the user where they go.

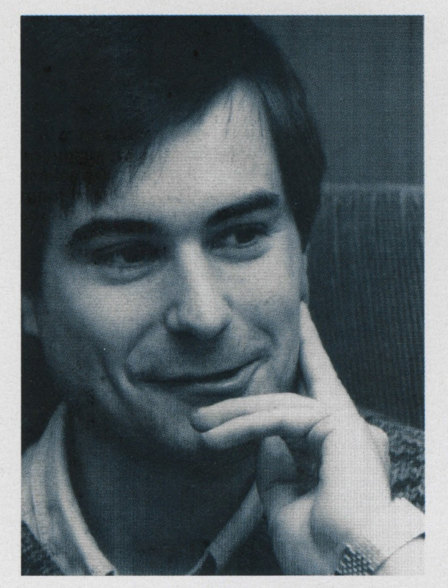
One thing I thought was sad about the 3DO's *Crash 'n Burn* was that you get a huge number of seconds of black screen right at the beginning. I'm very surprised that they just didn't knock up just the title screen and then do the loading.

Martin The Amiga version of *Frontier* is quite jerky and slow in places. Do you think it would be faster and more playable if you used hidden line vectors instead of filled polygons, like the old *Elite* graphics?

David Yes, it probably would have been faster, but it could look very, very messy and it would be unworkable. If you set the detail level to low that's not far off what you're getting now, and it does dramatically

Continued next page

interview


David: 'I've never really set out to be a game designer, I suppose'...


Martin: 'So David, why have you spent most of your life doing 3D games?'

Continued

improve the speed.

Martin There are points where you take off and the control is very jerky, and the frame rate of the police coming at you is almost one frame a second…

David There are relatively few places in the whole game where that happens, like the cities on Mars, cities on Earth and a few other places like Tau Ceti. It is processing a lot of data and that takes time. If you set the detail to low it does go faster, and I expect that if you've got one of the lower end Amigas, particularly a 500, you'll be using it on low detail.

Martin What about the PC version?

David Yes, it's quicker. But PC's are an absolute nightmare, I hate them because there are so many different standards. One nice thing about consoles is that they all tend to be quite similar. The CD^{32} is nice because it uses Amiga architecture, and that's so painless from a programmer's point of view. With a PC you can test something and it'll work fine, but with a different sort of EMS driver the whole thing might fall down.

Martin On to the Jaguar. Is there going to be a version? I mean that could be *the* one couldn't it? Smooth, detailed…

David Not planned, as yet. I'm always quite cynical about Ataris because at the moment the Atari name doesn't really inspire confidence. It's not a criticism of the machine. For someone like me, getting something up and running on CD^{32} is easy and any time spent isn't wasted. The Jaguar is a very different machine, and much as it would be great to do something on an exciting machine like that, well, there are always new machines on the horizon.

Martin Why have you spent most of your life doing 3D games?

David I've always been interested in 3D but I haven't only done 3D games. In the very early days when I was still at school I used to write other games for my own amusement. I had an Acorn Atom which I dangled lots of stuff off.

It was tinkering around for a hobby and then I twigged that I could probably sell some of these games. Myself and a friend did a demo of *Elite* and showed it to various people including Thorn EMI, who were the people that we wanted to sell it to. But they didn't want it so we went to Acorn, who took it.

Martin But why design in 3D?

David I never really set out to be a games designer, I suppose. 3D has always interested me and I've never really wanted to do *Super Mario* style, frustrating kind of games, because they're very difficult. *Elite* was more fun because it's not as if you're working to a goal or a score, it's more a case of simulating what happens. With *Frontier* there is always a sense of feedback.

Martin Were you asked to do *Frontier*?

David No I started out with Ian Bell, and we got it to be playable on a BBC Micro but we decided that it just wasn't good enough to sell, so we shelved it and started again a lot later – just me by then – supporting the higher end at the time, like the ST and the Amiga. I actually started on the ST so it just shows how long ago it was… When PC's still had CGA graphics.

Martin From that early idea what did you add to the game?

David I'm extremely into astronomy and I really wanted to have a much more realistic backdrop for the game. Like the fact that planets happen to be moving so fast that they're very hard to catch up. I haven't seen any other game where the planets actually move at realistic speeds or with realistic orbit lengths.

Martin What of the future?

David Sadly the days are over of one person writing a whole game, in the way I've worked on *Frontier* – working alone for three of the nearly six years. So I'll set up a small programming group to do conversions to other machines and to enhance the current ones. I hope to be producing new versions of *Frontier* for at least the next 5-10 years. There are still versions of *Elite* that haven't come out yet. Like for the SNES for example!

Martin Is that going to be vector or filled polygon?

David Polygon.

Martin What abut virtual reality clobber? Gloves and stuff? Are you going to get involved in any of that?

David I think that stuff's a distraction. The thing that's important with virtual reality is not the actual 3D, but the fact that when you move your head the display moves. From the point of view of the game it's just another input/output device. But this also makes it very easy to add late in the day. Generating the 3D images you just generate the offset by a small amount.

With *Frontier* the way we could do it is let you look around the cockpit and have all the displays visible in a virtual reality way. But that wouldn't really affect the internals of the game at all.

As soon as someone makes a machine to do all that, I'll program it, but until then it's not my problem…

Martin Thanks David.

Next time…

More **Edge** readers will be accompanying us on our next two interviews: with **Archer Maclean** (the man behind *Super Dropzone* on the SNES), and with the programming team at **Argonaut Software** (the designers of Nintendo's Super FX chip and the programmers of *StarWing*).

All you have to do is send in one question for either one or both of these interviews before January 20th. And if you ask the best, most searching question, you'll be the one to go along.

Address your questions to **Edge**, 30 Monmouth St, Bath, BA1 2BW.

Sleuth wanted

While some seem intent on greeting gamers with cloves of garlic and silver bullets, others are offering a warmer welcome. Fulfilling its role as custodian of our moving heritage, the **British Film Institute** has plans to erect a temple to the videogame, where devotees will be able to pay it homage. A museum-cum-gallery where every game ever made can be played or displayed is the aim. What the BFI needs is a walking, talking game encyclopedia who wants a job for three months tracking game titles and hardware. Interested?

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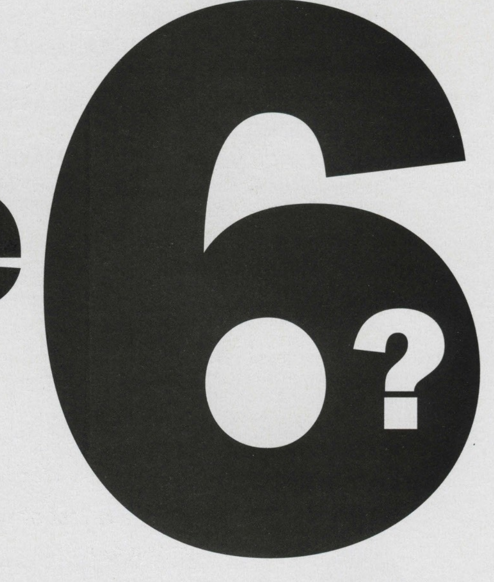
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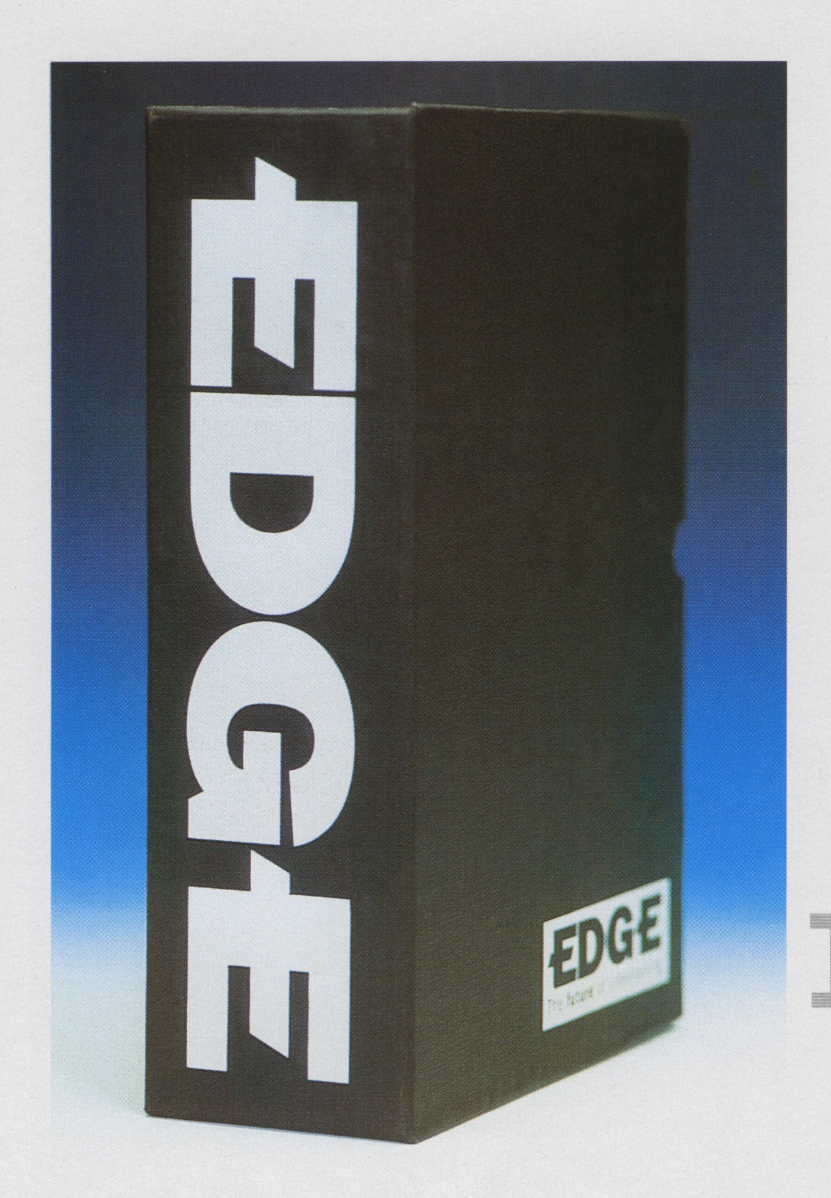
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viewpoint

What's your **opinion**? **Write** and **tell** us: **Edge** letters, 30 Monmouth Street, Bath, Avon, BA1 2BW



Your feature entitled Game Over argued that as seemingly more and more new games fall into specific styles or genres, the development of ground-breaking games is drying up. 'The amount of real innovation in the industry is decreasing year by year', you gloomily conclude.

I disagree, and I think there are a couple of significant points in this debate that you fail to mention here.

Firstly, I believe that the constant churning out of formulaic established genre games serves a useful purpose. Just take a look at what's happened over the last three or four years; the period in which you claim this stagnation has reached crisis level. Since the arrival on the scene of Sega and Nintendo's consoles, the videogame market has exploded through the roof. It's made it into the big time.

Is this coincidence? Of course not. Consoles have taken videogames from the small-time hobby pursuit of a minority to big business, larger than the Compact Disc industry. Seemingly overnight, Sega and Nintendo knocked down all the barriers of techno-fear and stigma that had previously kept the home computer industry anchored in the backwaters of small-time.

Their consoles are cheap, simple to plug in, easy to understand and – as part and parcel of this approach – it's bloody obvious how to play the games. The beat 'em ups, drive 'em ups and shoot 'em ups that you dismiss as stagnating the market are the very same games that are providing the entry-level appeal to newcomers.

I'm not for one minute going to argue that *Sonic* on the Mega Drive is a 'better' game than *Ultima Underworld* on the PC, but it's obvious which game is going to sell the idea of videogames to the average guy on the street.

It's these games that provide the first tentative step into the world of videogames for a whole new generation, a generation who will – in time – progress to becoming more discerning cart buyers, or PC owners, or **Edge** readers and (who knows?) 3DO owners. *Mortal Kombat* is currently doing more for the long-term sales of 3DO than any of Trip Hawkins' press conferences.

Neil West,
Journalist, San Francisco



Illustration: Paul Kidby

Edge's Game Over feature (issue three) stirred up some controversy. Is originality and innovation dead? (See letter from Neil West)

Point taken. But the fact still remains that for the bulk of machines, innovation seems to be the domain of graphics and sound, rather than ingenuity and gameplay. But perhaps we've pretty much seen all there is to see on 2D gaming systems? Maybe the next stage of the gaming evolution will arrive with the advent of home VR. Opinions please…

I have an Amiga CD^{32}, and I am a bit sad about **Edge**'s lack of information and reviews of software for this new console. For example, where's your coverage of *Pinball Fantasies*, *Zool*, *Morph*, and *Robocod*… And I'd like to see an article about all the publishers that pledged support for CD^{32} in the news story in issue one.

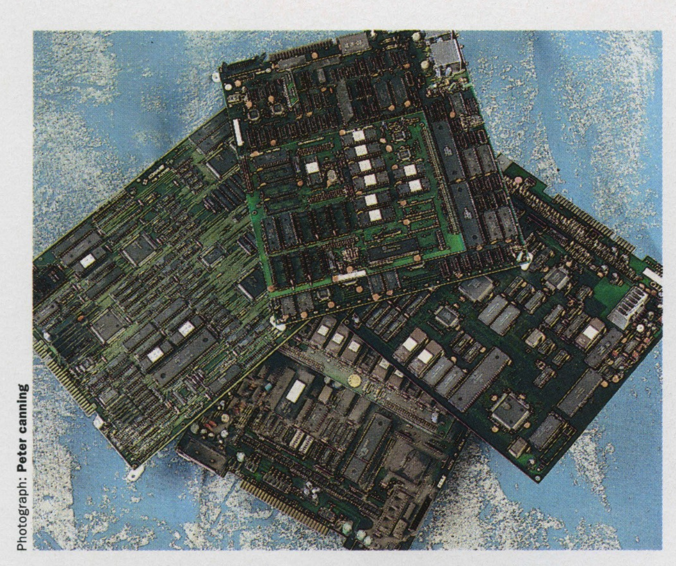
J Cobb,
Wisbech



A CD^{32} – and Edge's first CD^{32} review appears on p72

For starters, none of the aforementioned games are really worth covering in **Edge**, merely being CD versions of disk titles. However, *Liberation: Captive II* – which is Testscreened on p72 – has been written with the CD^{32}'s storage and hardware in mind.

As programmers/designers get to grips with the machine's capabilities and the software starts to reflect that, then **Edge** will no doubt increase its coverage of the system accordingly.


Photograph: Peter canning

A large pile of coin-op PCBs (Printed Circuit Boards) strewn haphazardly on a colourful backdrop. (See letter from Lester Britton)

First and foremost, thank you for the most genuinely informative and innovative magazine for the videogames industry.

That said, I felt issue three was marred by a rather naive article about the Supergun.

To begin with you failed to point out that the JAMMA standard doesn't support stereo sound, a real minus compared to the sophisticated stereo output of SNK's Neo-Geo.

But the most disturbing part of the whole review was the blasé approach to the acquisition of the Supergun and PCBs. PCBs can be very expensive and older boards are prone to imperfection through years of neglect. Copied PCBs freely circulate and offer indifferent quality. It is my experience that operators don't much care if the board's graphics are a little corrupt and the sound not working at all, because they don't play them. PCBs are a commodity designed to make money, so by the time a user can afford to buy them, they often don't work as they should because they've passed through so many uncaring hands.

What should be made clear is that buying a Supergun and/or PCBs is not for everyone. They are just too expensive and fraught with pitfalls to be recommended to anyone but the most committed.

Lester A Britton, Maidenhead

Edge would agree that the Supergun isn't for everyone, but then that's why we're here: to cover the fringe of gaming as well as the more established systems. As for the pitfalls, we'll concede that more emphasis should have been placed on the varying quality of PCBs, and anyone considering a Supergun should definitely be prepared test any games before parting with the cash.

I would like to offer some suggestions for the improvement of your already excellent magazine. First, I fully agree with your policy of reviewing only the revolutionary new games; there are plenty of magazines to cover the rest. But I would like to see a clearer rating system for the games that you do review. I would suggest a separate rating on different aspects of the game, like some other publications use – rating aspects like graphics, sound, gameplay, and summing it all up in a final overall score.

You could differentiate yourself from other mags by also including ratings for not-so-common aspects, like 'cutting edge technology level' (which expresses how advanced the game really is) or 'appeal to technophiles'.

I'd like to see such a detailed rating because people choose games based on different factors: for one person graphics are very important, and he or she may buy a game that is lacking in gameplay just to look at the pictures. Or like myself, some may just want to buy a game for the leap in technology it represents (that must be why *The 7th Guest* is doing so well, 'cos it sure ain't the gameplay).

The trick is to come up with some useful, but unconventional dimensions on which to rate; this way you'll avoid becoming one of the grey mass of mags already out there. Please don't ever do that to me!

Reinier Lohman, Rotterdam

While Edge was in the planning stage, we actually wanted to do away with ratings altogether, and let our words speak for themselves. However, given the limited space available, this could lead to confusion, and so it was decided that we'd keep the ratings, but keep 'em simple.

Much as **Edge**'s reviews are absolute in their accuracy, they're more a showcase for the different formats rather than a complete buyer's guide. With that in mind, a full rating system is inapplicable and would take up even more room.

But we're always open for discussion: if you think our ratings system needs improving, you can either mention it on the survey on p93 or write in to us. If enough people think we should change, we will. It's your mag, after all…

I can't understand why people are talking about interactive movies, because it will never happen. A film is a linear story and will always remain so.

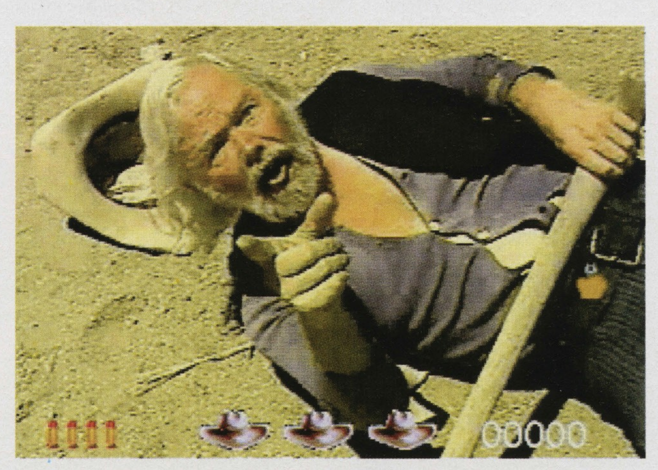
The sooner the softies and everyone else realise this the better, because then maybe the huge potential of CD-ROM as a format can start to be used properly. CD games will be no different from games today except developers will not have to worry about memory and disk space, and games will only be limited by imagination.

But according to **Edge** two, CD-ROM is too slow. Well I've got one thing to say to that – rubbish. CD-ROM may not be a hard disk but it is faster than floppies and with much more storage space than hard disks.

A Lang, Edinburgh

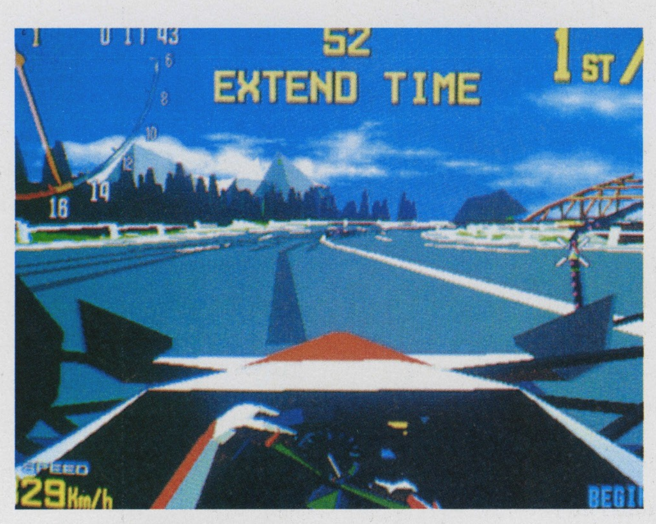
Sorry, Mr lang, but we disagree. True, interactive movies are a complete dead end, but then you say that 'CD games will be no different from games today except… memory and disk space, and games will only be limited by imagination.' Which bears out our arguments: CD is just a storage device for snazzy graphics and better sound. But having played *Mad Dog McCree* on 3DO – which is a double speed drive – CD *is* too slow. Yeah, it's fine if you want to load in pretty backgrounds or cinematics, but to make a game with interaction, CDs can't compete with hard drives or ROM chips. Sure, CD-ROM products will improve – games like *MegaRace* and *Dragontales* are already showing that – but the real future of interactive gameplay is in powerful systems that generate complex 3D images realtime, not in machines that turn your console into a video player.

Continued next page



The CD-ROM argument continues. Sadly, this old codger from *Mad Dog McCree* does nothing to help the cause... (See letter from A Lang)

viewpoint



Admittedly *Virtua Racing* (above) is better at polygons than the SNES, but then it does cost £19,900 more. (See letter form Stuart Deer)

Many journalists are sceptical about up-and-coming CD systems and the games that will be produced for them. I am a firm believer that gameplay is the backbone of any game. Yet, if you look back – as you did yourself in your Game Over feature – the games of the past were very similar in design to today's, but were graphically diabolical. So games haven't really changed much, but good graphics do enhance them a great deal.

I am fed up with my SNES and its poor graphic capability, and it annoys me to think that anyone can walk into an arcade and play *Virtua Racing*, only to return home to boring 16bit technology.

So roll on 3DO, Jaguar, and any other 32bit (or better) machines, because with these amazing graphics capabilities, we can hopefully see the demise of the 16bit cartridge machines and all their limitations, and play games which at least deliver a 'being there, doing it' experience.

Stuart Deer,
Kent

We can't help thinking you're being a bit hard on the SNES – one assumes you're lamenting its lack of 3D graphical potential. Of course the difference is that for a couple of hundred quid you can play games like *Pilotwings*, *F-Zero*, *Street Fighter II* and *Super Mario* in the placid comfort of your own home, whereas a dedicated *Virtua Racing* machine will set you back a mere £20,000 for the deluxe model.

As an avid spectator of the computer industry since the early eighties, I have seen the incredible advance in technology – from the humble ZX81 to the formidable 3DO.

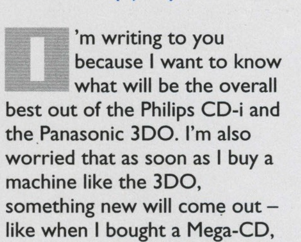
But this dramatic leap in technology has fuelled my increasing concern for the software industry over the past few years. Inevitably, as processors become more powerful and infinitely faster, programmers are tending to rely on these just to produce startling new effects. Unfortunately this has become something of an obsession – to the extent that a 'better specs, better software' syndrome has evolved.

This continual barrage of new systems each claiming to be the 'future of home entertainment' has now reached the point where the search for new technical specifications has vastly overshadowed any investment in software development.

It's worrying that it has taken just four years to go from an 8bit dominated videogame industry to one that is now looking at 32 and 64bit CD systems. There is a danger that while the main players are busy leapfrogging each other in hardware specifications, programmers don't get enough time to get to grips with one machine before then next one appears.

The 8bit systems were pushed to their limit before being phased out – there's little danger of that happening with the current 16bit consoles. Already the games have become stagnant and both SNES and Mega Drive have only a few years left in them.

And the race for new technology doesn't look set to ease up just yet...

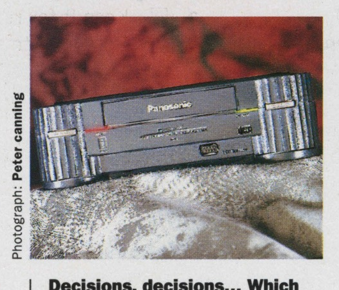


I'm writing to you because I want to know what will be the overall best out of the Philips CD-i and the Panasonic 3DO. I'm also worried that as soon as I buy a machine like the 3DO, something new will come out – like when I bought a Mega-CD, the Philips CD-i was launched.

Andy Ellis,
Walsall



Photograph: Peter canning



Photograph: Peter canning

Decisions, decisions... Which system to buy? Philips' CD-i (top) or Panasonic's 3DO? (bottom). To be honest, Edge is dubious about both of 'em. (See letter from Andy Ellis)

Both CD-i and 3DO have to prove themselves as standards. No matter what Philips would have you believe, CD-i so far has underachieved badly. But then it's still the only genuine multimedia machine on sale at the moment – and with the advent of Digital Video, its future is looking (slightly) rosier.

3DO is a more powerful system: Philips cannot deny it. But it is expensive and has little software (dozens of US customers have taken theirs back for a refund because of it). By the time Panasonic's 3DO is launched in the UK we should have a clearer picture of how it's doing – and whether you should buy that or a CD-i. Or a Sega Saturn. Or a Sony CD system. Or a Jaguar. Or...

I was scanning the shelves of WH Smith on Saturday, and the stunning cover of **Edge** three fairly leapt out at me. Flicking through it, I was amazed at the layout, the use of graphics and colour, and the typography. It is totally unlike any other periodical, with a wealth of detail in the printing and a unique identity stamped all over its pages. Truly, I've never seen such a beautiful publication before...

C M Rogers,
Edgware

Praise indeed. **Edge** has been acclaimed by the whole industry for its fresh approach to the videogame world. If you want to help make **Edge** even better, give us your views in our readers' survey (right)...



The Acorn A3010 Competition



One monster 32bit computer, going, going... gone

Our competitions are proving very popular – hardly surprising, when you can win kit like an Acorn A3010 complete with colour monitor, JP150 printer and Acorn Action Pack containing *Zool*, *Lemmings*, and *Chuck Rock*.

We asked you to name the first commercially available game for Acorn's Archimedes. Sadly many of you got it horribly wrong, but **Mark Williamson** of Newbury in Berks got it right, well done that man. The correct answer was *Zarch*, which appeared as *Virus* on the ST and Amiga.

Reader survey

Fill in our questionnaire, help us make **Edge** even better, and win a free year's subscription into the bargain…

The magazine

One How often do you read Edge?
a ☐ **Almost always** (at least three out of every four issues)
b ☐ **Regularly** (between one and three in every four issues)
c ☐ **Occasionally** (less than one in every four issues)

Two How often do you buy Edge?
a ☐ **Almost always** (at least three out of every four issues)
b ☐ **Regularly** (between one and three in every four issues)
c ☐ **Occasionally** (less than one in every four issues)
d ☐ **Never**

Three a) Did you, personally, buy this copy of Edge?
a ☐ Yes
b ☐ No

b) If yes, where did you buy it from?
a ☐ Independent newsagent
b ☐ Highstreet newsagent chain
c ☐ Supermarket
d ☐ Home delivery by newsagent
e ☐ Subscription to the magazine

Four Roughly how many people are likely to read this copy of Edge?
a ☐ 9 or more
b ☐ 6 to 8
c ☐ 4 to 5
d ☐ 2 to 3
e ☐ Just 1

Five On average, about how much of Edge do you read or look at?
a ☐ All of it: cover to cover
b ☐ More than three-quarters
c ☐ About half to three-quarters
d ☐ About a quarter to a half
e ☐ Less than a quarter

Six How long do you think you spend reading or looking at an average issue?
a ☐ 3 hours or more
b ☐ 2 to 3 hours
c ☐ 1 to 2 hours
d ☐ Less than an hour

Seven How many times do you pick up and read or look at an issue?
a ☐ More than 10 times
b ☐ 6 to 10 times
c ☐ 4 to 6 times
d ☐ 2 to 3 times
e ☐ Once only

Eight What will you do with this copy of Edge when you've finished reading it?
a ☐ Keep it for reference
b ☐ Pass it on to someone else
c ☐ Throw it away

Nine How do you rate the following sections of Edge? (Mark out of 10.)

a	Cover	/10
b	Editorial	/10
c	News	/10
d	Charts	/10
e	Release dates	/10
f	Prescreen	/10
g	Features	/10
h	Competitions	/10
i	Testscreen	/10
j	Letters	/10
k	Next month page	/10

Ten Which section would you want to see bigger or improved? (Tick one.)

a	Cover	☐
b	Editorial	☐
c	News	☐
d	Charts	☐
e	Release dates	☐
f	Prescreen	☐
g	Features	☐
h	Competitions	☐
i	Testscreen	☐
j	Letters	☐
k	Next month page	☐

Eleven What is the most important aspect of the magazine? (Tick one.)

a	Design	☐
b	Content	☐

Twelve Do you read any of these magazines regularly (at least once every six months)?
a ☐ Amiga Format
b ☐ Amiga Power
c ☐ Game Zone
d ☐ GamesMaster
e ☐ PC Gamer
f ☐ PC Format
g ☐ Sega Power
h ☐ Sega Zone
i ☐ Super Play
j ☐ Total!

TV and radio

Thirteen a) Which of these TV services do you watch at home, and which one of them do you like best?

	Ever watch		Like best
a	☐	BBC1	☐
b	☐	BBC2	☐
c	☐	ITV	☐
d	☐	Channel 4	☐
e	☐	Satellite	☐
f	☐	Cable	☐

b) And how long, on an average day, do you spend watching TV?
a ☐ 5 hours or more
b ☐ 3 to 5 hours
c ☐ 1 to 3 hours
d ☐ Less than an hour

Fourteen a) Which of these radio services do you like to listen to?
a ☐ Radio 1
b ☐ Radio 2
c ☐ Radio 3
d ☐ Radio 4
e ☐ Atlantic 252
f ☐ Capital Gold
g ☐ Capital FM
h ☐ Kiss FM
i ☐ Virgin 1215
j ☐ Other commercial radio station

b) And about how long, on an average day, do you spend listening to the radio?
a ☐ 5 hours or more

Continued next page

readersurvey

b ☐ 3 to 5 hours
c ☐ 1 to 3 hours
d ☐ Less than an hour

Fifteen Which of the following do you regularly use in your home?
a ☐ Personal CD
b ☐ Personal stereo
c ☐ Portable radio/cassette
d ☐ Mini/Midi hi-fi system with CD
e ☐ Mini/Midi hi-fi system without CD
f ☐ Racked hi-fi with CD
g ☐ Racked hi-fi without CD
h ☐ Hi-fi separates
i ☐ TV
j ☐ VCR
k ☐ Camcorder

Sixteen Thinking of the last three music recordings that you bought, what kind of music were they? (Tick up to three.)
a ☐ Rave/Dance
b ☐ Chart/pop
c ☐ Heavy metal
d ☐ Rock
e ☐ Rap
f ☐ Soundtrack
g ☐ Reggae
h ☐ Acid jazz
i ☐ None of the above

Seventeen How many of the following have you bought in the last 12 months?

		Records	Cassettes	CDs	Videos
a	10+	☐	☐	☐	☐
b	5 to 9	☐	☐	☐	☐
c	3 to 4	☐	☐	☐	☐
d	1 to 2	☐	☐	☐	☐
e	None	☐	☐	☐	☐

Money

Eighteen Please show us which of these bank, building society and post office accounts you have. Then could you tell us if you opened the account in the last year. (Don't worry, we don't want your money, this is just to help us out with our advertising.)

		Have account	New in last year
a	Bank current account	☐	☐
b	Bank deposit/ savings account	☐	☐
c	Building society current account	☐	☐
d	Building society deposit/ savings account	☐	☐
e	Post Office: Girobank account	☐	☐
f	Savings account	☐	☐

Clothes and Shoes

Nineteen a) Which of the following have you had new in the last 12 months?
a ☐ Shoes/boots
b ☐ Trainers
c ☐ Other sports footwear
d ☐ Jeans
e ☐ Shorts
f ☐ Other trousers
g ☐ Shirts
h ☐ Sweatshirts
i ☐ T-shirts
j ☐ Tracksuits
k ☐ Other sports clothing

b) And how much money have you spent on these items in the past 12 months?

	Under £50	£50-£99	£100-£149	£150 plus
Shoes/boots	☐	☐	☐	☐
Trainers	☐	☐	☐	☐
Other sports footwear	☐	☐	☐	☐
Jeans	☐	☐	☐	☐
Shorts	☐	☐	☐	☐
Other trousers	☐	☐	☐	☐
Shirts	☐	☐	☐	☐
Sweatshirts	☐	☐	☐	☐
T-shirts	☐	☐	☐	☐
Tracksuits	☐	☐	☐	☐
Other sports clothing	☐	☐	☐	☐
	a	b	c	d

About you

Twenty Are you...
a ☐ Male
b ☐ Female

Twenty-one How old are you? (Tick the appropriate box.)
a ☐ 30 or above
b ☐ 25 to 29
c ☐ 24
d ☐ 23
e ☐ 22
f ☐ 21
g ☐ 20
h ☐ 19
i ☐ 18
j ☐ 17
k ☐ 16 or under

Twenty-two a) From which of the following sources do you receive the most money?
a ☐ Regular full-time job
b ☐ Regular part-time job
c ☐ Pocket money/allowance from parents
d ☐ Student grant
e ☐ Social Security/dole money
f ☐ No money received

b) And about how much, in total, does this come to in an average month?
a ☐ £1,000 plus
b ☐ £500 to £999
c ☐ £400 to £499
d ☐ £300 to £399
e ☐ £200 to £299
f ☐ £100 to £199
g ☐ £50 to £99
h ☐ £25 to £49
i ☐ £10 to £24
j ☐ Under £10

Comments If there's anything you wish to say about the magazine, please use the space below (and make it good)

Name:

Occupation:

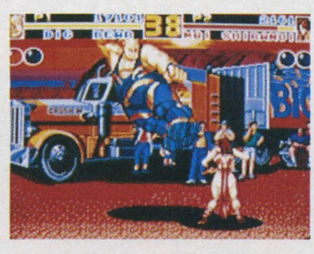
Address:

Post code:

Once you've completed the questionnaire (or a photocopy) shove it in an envelope and send it to: **Edge Questionnaire, 30 Monmouth Street, Bath BA1 2BW.**

As an added incentive, we're giving away **five** free subscriptions to the best videogame magazine in the world (**Edge**, dummy). But if you don't fill in the gaps, you won't get the mags...





***Fatal Fury II* for the new arcade system card on PC Engine CD**

Can't tell your PAL from your NTSC? Confused by RGB and composite? Or simply want more information? Just write to **Edge**...

Q I have been thinking about buying a US spec 3DO FZ-1 to run on a Hantarex monitor. However, I was put off by your statement in **Edge** issue three that the game *Crash 'n Burn* lived up to its name and 'crashed' four times during intensive playing. You said that this could possibly have been a result of bugs in the software or hardware. Consequently, I have decided to wait for two to three months before buying.

I wish to know if you think I should hang on for the launch the UK 3DO machine possibly next April, or if I should still buy a US machine in a couple of months, by which time any bugs might have been ironed out of the hardware.

With reference to this question, could the UK 3DO machine really end up being what you call a 'bodged' conversion, like the UK Mega Drive and SNES, complete with squashed picture and 17% speed loss because of the conversion for PAL TVs?

If this turned out to be the case, would the price of imported 3DOs rise in the UK?

Jeremy Dickinson, Preston

A Yes, *Crash 'n Burn* does crash occasionally. The hardware will certainly be refined to cure this, but as to when this'll happen... who knows. A more immediate problem results from not being able to play it on a PAL TV. Currently most imported systems are being played on NTSC compatible TVs or monitors, but there's no real reason why the UK 3DO couldn't have a fullscreen display.



Does 3DO really crash and burn? Will it appear in the UK in traditional 'letter-box-o-vision'? 3DO is still the source of most Edge enquiries...

Q Is there any way of connecting the SNES to a hi-fi if the multi-out socket is already occupied with a Scart lead?

Sinh Huynh, Peckham

A You'll need to branch a set of phono plugs off the Scart lead. Call a company like TDS (081 677 5113) for more information.

Q In **Edge** one there was a news story about the new 16Mbit RAM card for the PC Engine Duo. Is there any more news, and how much will it cost?

Alec James, Bradford

A For those who missed the first issue, this is a joint development between HudsonSoft and NEC Home Electronics to further increase the Engine's RAM cache for CD games. Containing 16Mbits of RAM, the card plugs into the Duo's HuCard slot and, with the 2Mbits (256K) of RAM in the Duo, boosts the total amount of available RAM to 18Mbits (2¼ megabytes). For owners of the older PC Engine CD system, it looks like an adapted version of the card will be available allowing you to plug in both system cards – the new 16 meg one, and the older 2 meg Super System card for the same results. The arcade card system goes on sale on 18th December, at the same time as the first game to use the new format – HudsonSoft's conversion of *Garodensetsu II* (known over here as *Fatal Fury II*). More news as soon as it appears.

Q Will a US copy of *Street Fighter II Turbo* for the SNES work through a standard universal adaptor or Pro Action Replay as I have heard that some carts have a reaction against such devices?

Janek and Lenny Banks

A Adaptors are constantly being updated to cope with both lock-out chips and code, and the whole adaptor business is suffering as a result. New adaptors come out to solve the problem and they're usually redundant within a few weeks. The situation is the same on the Mega Drive, but simultaneous MD releases, or thereabouts, seem to occur with increasing reliability.

Buying a UK SNES or Mega Drive more or less dictates that you'll end up playing only official releases, because of the hassle of area-coded games.

But if you want to play the latest Japanese and US SNES games, then you have to buy a 60Hz NTSC console.

And it's interesting to see that Atari have gone the opposite way. With the arrival of the Jaguar, we're promised one cartridge for the world. This can only be step in the right direction. E

Q and A

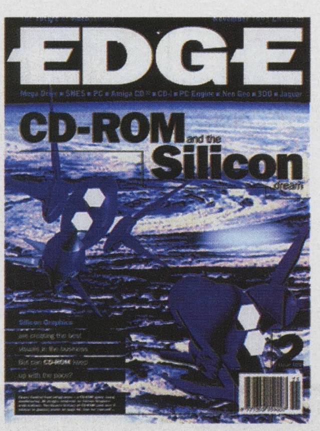
Send us a letter outlining all your gaming concerns and we'll try to give you the answers you're looking for. Just write to: Q&A, Edge, 30 Monmouth Street, Bath, Avon BA1 2BW. Also you can fax us on 0225 338236, or e-mail us via future@cix.compulink.co.uk. with a subject line of 'ATTN: Steve Jarratt'.

Sorry, we can't answer queries on the phone and personal replies aren't possible.

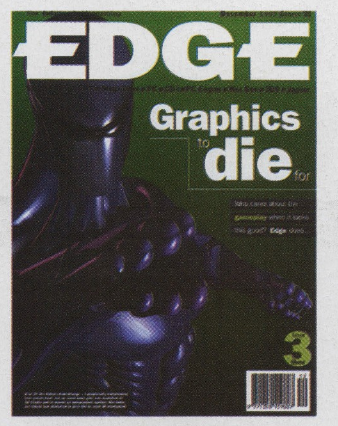
Back issues

Here's your chance to pick up one of the few remaining back issues of **Edge**. And what better way to store them than in an exclusive **Edge** slipcase? But remember, if you subscribe (p88) the slipcase is yours free and you'll never miss an issue again...

Edge one – 3DO: the real deal, Amiga CD32 launched, the making of *Microcosm* plus games in Dolby Surround sound



Edge two – Atari's Jaguar console, the truth about CD-ROM, interactive TVs. All this plus sex and violence, too



Edge three – First 3DO review, Virtual Reality, the Supergun home coin-op and 'Game Over' for videogame originality



Edge four – First Jaguar review, new developments at Bullfrog and Cryo, plus a retrospective on NEC's classic PC Engine console

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Next month



EDGE 6

Thursday 27th January

continued Edge 6




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